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For April, May, and June, 1837.

ESSAYS AND CASES.

Art. I.—Hospital Reports.

Cases Treated in the Cincinnati Hospital, *with Clinical Observations.* Recorded by William J. Barbee, M. D., and Edward Kimball, Student of Medicine, House Surgeons. Arranged by the Editorial Committee.

The Cincinnati Hospital was established, in the Autumn of 1836, by the Professors in the Medical Department of the Cincinnati College, for the instruction of their pupils in clinical medicine and surgery. The building selected for the purpose, stands directly opposite the college edifice, and will accommodate about 30 patients. By a contract with the General Government, it is a Marine Hospital, so far as there are sick boatmen at this place; and by an arrangement with the Surgeon of the *Cincinnati Eye Infirmary*, an incorporated charity, the patients of that establishment are received and treated in the Hospital. Other patients, moreover, are admitted, both as beneficiaries and by paying for their accommodations. Since the house was opened, on the first of October last, it has never been without patients, and at times the number has been such, as to afford many decided practical advan-

tages to the pupils of the College. All who intend to graduate, are required to take the hospital ticket, and attend the practice throughout their second course of lectures. During the session, the professors of surgery and of the theory and practice, attend to the sick, daily, from two to three o'clock in the afternoon; thus affording to the medical students an opportunity of witnessing nearly every prescription made, without losing any of the lectures in the College

In the infancy of such an establishment, its reports cannot conveniently display that fulness and circumstantiality, which are the fruits of an older organization; but, in the subsequent numbers of our Journal, we hope to present such as will, in their details, be found of deeper interest.

SURGICAL DEPARTMENT.

CASES OF SCALDING BY STEAM.

Before day, on the morning of the 17th of November, 1836, the steamboat FLORA, on her upward voyage, about forty miles below Cincinnati, suffered a fracture of her equilibrium pipe. The steam escaped in large quantities, and entered the door of the gentlemen's cabin, which was standing open. The passengers were aroused from their sleep, and ten or twelve of them were more or less extensively scalded. One died before reaching our quay, and another was *in articulo mortis* when the boat arrived. Most of the others became patients—internal or external—of the *Cincinnati Hospital.*

On examining them, it was found that no part of their bodies that were covered by clothing, however thin, were scalded in the slightest degree. Thus it appears, that steam does not act injuriously through our clothing, and that all who travel in steamboats should be careful, at night, *to lie down clothed.* In further testimony of the same fact, it may be mentioned that such of the passengers as remained in their berths, and covered up their heads, escaped all injury.

When the sufferers reached Cincinnati, reaction had taken place in most of them, as they had been liberally supplied with brandy and laudanum; but the pain and smarting which they still experienced, were very great.

Case.—Col. K., a member of Congress from Indiana, was among the number of those who were scalded most severely. Nearly the whole of both hands and both feet, with his wrists and ankles, and his face and neck, were blistered; the other parts of his body were covered. It did not appear, that the mucous membrane of his mouth, throat, lungs, nostrils or eyes, was in the slightest degree affected, although the cuticle was raised to the very margins of the different apertures. Hence, it seems that steam does not act on the mucous membrane as on the skin.

The dressings selected for this patient, by Professor Drake, was the common liniment of flaxseed oil and lime water. When he arrived, his pulse appeared to be well sustained, but it was soon found to be variable and occasionally to sink—rendering a repetition of the laudanum necessary, not only to relieve his sufferings, but to support his circulation. His mind was agitated and alarmed; and in the course of the first night, he showed signs of delirium. On the succeeding day, the laudanum was replaced by a solution of the acetate of ammonia with acetate of morphia, but no particular advantage followed the change. On the third day, the mental excitement was great and disordered. At times he would breathe, in imitation of the puffings of a steamboat; and his exclamations indicated that his mind was running on the scenes of disaster and distress, connected with the explosion by which he had suffered. His pulse was frequent and sometimes tense. The scalded surfaces, red and tumid. In this condition, to relieve his brain, he was bled to 12 or 14 ounces. His pulse sank, and the denuded surfaces assumed a darker hue, but no abatement of the encephalic disorder followed. Copious purging was effected, but without any decided advantage. The dressings were now changed for those of a more stimulating character; consisting of the Kentish or terebinthinate liniment. A copious secretion of laudable pus followed this application, with an abatement of the cuticular tumefaction, and an appearance of healthy granulation; but his constitutional symptoms continued bad. His pulse became more frequent and variable; his *conjunctivæ* reddened; a considerable degree of convulsive action of his muscular system, with great restlessness super-

vened; and his aberation of mind remained unmitigated. As the vital powers were sinking, yeast poultices with cinchona bark, were applied to his extremities over the liniment, and continued up to his death, which took place about six days after the accident—his delirium remaining to the close of life. Dying at the house of a friend, a *post mortem* examination was not made.

Case.—S. D., of Washington, Pa., aged 27, was admitted into the Hospital at 4 o'clock, on the 17th of November, twelve hours after the accident. Scalded over his entire face, forearms and hands, abdomen and feet and legs—having gone into his birth with no other clothing than a shirt. Some reaction in his general system had taken place. On board the boat, his lower extremities had been covered with rags dipped in a liniment of white lead ground in oil. To the other parts, Professor Parker applied the liniment of flaxseed oil and lime water, and ordered sixty drops of laudanum. At 9 o'clock, P. M., his pulse was seventy in a minute and rather weak. His tongue furred.

18th. The same applications were continued, and the saturnine liniment left on his legs. Pulse 110; tongue covered with a brown coat; bowels costive. An enema was ordered, which produced two or three evacuations of a healthy character. At midnight his pulse was 112, and he was extremely irritable: ordered sixty drops of laudanum.

19th. Rested well the latter part of the night. In the morning, pulse 108, with strong signs of constitutional irritation. Took ℥j of ol. Ricini, and had several operations through the day of a bilious color. The same applications were continued, and forty drops of laudanum administered at night.

20th. Rested well last night—pulse 98. Applications the same. Laudanum at night.

21st. Passed a tolerable night—pulse 112—costive. Ordered sulphate of magnesia and soda water. Had a copious operation at 8, P. M. After which he took a portion of Dover's powder and calomel; dressed with the Kentish liniment, covered with varnished silk.

22d. Pulse 116. Lies in a half comatose state. Ordered a pill of opium and tartar emetic—each, one grain. In the afternoon, pulse feeble; directed a grain of sulphate of quinine and half a grain of opium every four hours.

23d. Considerable delirium last night, his circulation being extremely feeble. Died at 5 o'clock, this morning.

Post mortem examination, *five hours afterwards, by Professor Gross, in presence of the Faculty and Students.*

Skin. No gangrene had taken place, but there was pus on the scalded surfaces. Underneath there was considerable cellular infiltration.

Brain. Consistency natural. Great venous congestion. Bubbles of air in some of the superficial veins. Some adhesions between the hemispheres. A sero-purulent effusion between the dura mater and arachnoid.

Lungs. Engorged with blood. Mucous surface up to the glottis, in a state of hyperæmia, with appearance of purulent secretion.

Heart. Natural, but a considerable degree of hydro-pericardium.

Organs of the Abdomen. Stomach healthy, except two spots of sanguinous extravasation underneath the mucous coat. Intestines distended with gas, otherwise natural. Liver congested. Spleen adherent to the diaphragm, and much engorged with blood. Bladder, with a quart of urine. It was supposed that the patient had discharged his urine during the operation of his cathartics and injections, as he made no complaint of its retention; and being scalded in the hypogastric region, the state of his bladder was not ascertained by an examination.

Case.—G. F., aged 39, a robust German, scalded on the face, breast, shoulders, arms and hands, was admitted at the the same time. Pulse 60. Constitutional irritation and prostration not so great as in the other cases. Placed in the immediate charge of Mr. Trask, one of the clinical pupils. Professor Parker ordered the same dressings as in the case of S. D. just narrated.

18th. Rested badly during the night. Left hand livid, and the circulation in the whole limb very inactive. Applied the Kentish liniment. Pulse 80. Tongue with a brown coat.

19th. Slept better. Purulent secretion general, except on the left hand, the back of which showed strong signs of gangrene. Continued the liniments, applying to the left hand a fermenting poultice. Opium and tartar emetic mixed in grain doses, each.

20th. Pulse 80. Rested well last night. Same dressings continued. Cream of tartar administered as a laxative.

21st. Pulse 80. Slept well last night. Suppuration on the left hand begun. Poultice continued. Circulation well sustained. Professor Parker now directed, to the scalded surfaces generally, charpie dipped in cold water, to be covered with medicated silk.

22d. Pulse 80. Doing well. Gangrenous skin and cellular tissue of the left hand sloughing off. Treatment the same.

23d. Not so well. Rested badly last night. Slight delirium. Opium and tartar emetic, each in grain doses mixed, through the day. At night, being costive, 10 grains of calomel, and 10 of rhubarb.

24th. Decidedly better. Recovery from this time regular and rapid.

Case.—T. J., of Steubenville, aged 18 years, admitted at the same time, with the other patients. Scalded on the face, arms and hands. Pulse 58. Has an enlarged spleen, from intermittent fever. The calcarious liniment applied as in the other cases; and 50 drops of laudanum administered.

18th. Rested very indifferently last night. Great constitutional irritation. Pulse 112. Dressings the same. Calomel, 4 grs. Ipecac. 1 gr. mixed.

19th. Slept a while last night. Still very irritable. Two or three alvine discharges of a healthy character. Pulse 116. In the evening, pulse 104, restless. Ordered opium and tartar emetic. Emollient poultices to his hands.

20th. Rested well last night. Took calomel and rhubarb. Same dressings continued. In the afternoon took Ol. Ricini.

In the evening had two operations. Directed opium and tartar emetic at bed time.

21st. Pulse 92. Rested better last night. Same dressings continued. Purulent secretion established. Dressings—wet lint and medicated silk. Laudanum at bed time.

22d. Slept well last night. Pulse 76. Same dressings, except to his hands, which, being in pain, were covered with emollient poultices. Ol. Ricini in the day, and opium and tartar emetic at bed time.

23d. Symptoms favorable. Pulse 75. Applications the same. At night, opium, tartar emetic, and calomel.

24th. Symptoms less favorable. Pulse 85. Slight delirium. Cathartic of Ol. Ricini. Evening—the medicine has operated well. Better.

25th. Still better, but irritable in the evening, with his pulse at 82. Twenty drops of laudanum.

From this time, he continued to recover regularly, and was discharged on the 4th of December.

The treatment of the other patients was essentially the same as that which has been detailed, and they recovered.

Clinical Remarks by Professor Parker.

In his practical remarks on the applications appropriate to injuries from caloric, the professor drew a distinction between burns and scalds. A very *limited* scald and a *superficial* burn, may be treated in the same manner. A simple emollient or a refrigerant,—a bread and water, or an elm bark, or a carrot poultice,—or a compress dipped in lead water,—will be sufficient, and equally adapted to both cases. It is when the injury is severe, that a necessity for some variety in the topical applications arises. The reduction of the vital powers of the part, in deep burns, is very great, and the dressings from the beginning should be stimulating. It was in cases of this kind occurring in the mining districts of England, that Mr. Kentish first used his turpentine liniment. Tar is an excellent application to such burns. An emollient poultice should be applied over these stimulant dressings. Early suppuration is the desideratum. If the state of excitement which attends purulent secretion, should not arise in time, the part will lose

its vitality. Scalds are dangerous in proportion to their extent. The disease is confined to the skin, which is exquisitely sensible; and brings into sympathy a great number of the vital organs. Bad scalds, therefore, do not require applications so stimulating as those adapted to bad burns. Of every kind of dressings, Professor Parker prefers the liniment of flax seed oil and lime water. It is slightly stimulating, emollient, and calculated to exclude the atmosphere, the action of which on the skin denuded of its cuticle, is always injurious. It is only when the surface changes from a bright to a dark red, indicating passive congestion, with but little tendency to puriform secretion, that the Kentish liniment, and other exciting applications, are required, or even proper. To this remark, however, exceedingly superficial scalds, not amounting to vesication, are an exception; as such are often successfully treated with whiskey and other alcoholic lotions, which seem to introduce a new action into the part. The Professor doubts the propriety of applying liniments of white lead extensively, to parts denuded of their cuticle. They may act on the nervous system as poisons. In the granulating stages of scalds, he has a very favorable opinion of lint dipped in cold water; provided it is covered with oiled or varnished silk, to prevent evaporation and exclude the air. It is acceptable to the feelings of the patient, and favorable to early and healthful cicatrization.

Further Remarks by Professor Drake.

At the close of the treatment of these cases, the Professor took occasion to point out to the pupils some of the difficulties attendant on the constitutional treatment of extensive scalds. The nervous function is prostrated; not, however, by a narcotic, but an agent whose ultimate or secondary action is, to produce inflammation and a phlogistic diathesis. Therefore, while the vital powers are greatly reduced, there is a tendency in the central organs to inflammation. This tendency is greatest in the brain. Hence the symptoms of phrenitis, in the patients whose cases have been narrated; and the actual existence, on dissection, of the products of inflammation in the case of S. D. The professor observed, that from the very nature of the injury, such cases would always be liable to a

sinister termination. If patients were over stimulated, they would certainly die of acute inflammation—if depleted, they would sink. Depletion could not reach the inflammation, while the prostration of the nervous power continued; and bloodletting was apt to increase and prolong the constitutional irritation, even when it did not occasion death. In this combination of irritation and inflammation, he supposed the best remedy is the compound of opium and tartarized antimony, in a solid form—the latter being used in large doses, after the manner of the Italian physicians. Sometimes full vomiting, followed by an anodyne is beneficial.

Caries of the Bones of the Foot. Amputation.

Case.—Jolly, aged 30 years, was admitted into the hospital on the 14th day of December, 1836, for disease of his left foot. His constitution was good, and his habits temperate; but he was considerably emaciated, without, however, being decidedly hectical. About fourteen years before, his heel was frost-bitten, and there followed some internal inflammation, with the discharge of some spiculæ of bone. This disease seemed, however, to get well; and he had the perfect use of his foot and limb till about two years before the time of his application at the hospital; when, without any obvious cause, the parts under the ankle joint, became affected with pain and swelling, followed by several fistulous openings and an ichorous discharge. Having tried various plans of treatment, he was received into the hospital.

Professor Parker, to whose care the patient was confided, concluded that the only chance of relief was to remove the limb, and he accordingly, on the same day, performed the operation in the anatomical amphitheatre, in the presence of the medical class, cutting off the leg about four inches below the knee. In the course of four weeks the stump was so far healed, that Jolly was able to leave the hospital, and with the aid of a cork leg, made by some artizan of this city, and he has no difficulty in attending to his ordinary pursuits.

On inspecting the amputated limb, Professor Gross found the astragulus and os calcis quite carious, with a distinct abscess in the centre of the former, filled with greenish looking and

highly offensive pus; of which a considerable quantity had been latterly discharged through the fistulous tracks before alluded to. The subcutaneous cellular tissue and skin of the instep and sides of the foot were of a dense gristly hardness in different parts, and the fistulous passages lined by a thick layer of lymph. The other tarsal bones were perfectly sound.

The posterior tibial nerve, in this case, was very much enlarged, being at least three times the natural size, and its sheath was covered for a considerable distance with hardened lymph. The corresponding artery was ossified and very brittle.

Five weeks after the removal of the limb, Jolly still complained of severe pain in the sole of the foot and along the metatarsal bone of the little toe; parts in which he suffered much distress previously to the operation. This symptom is by no means unusual. Count De Sigur states that it was very common in Buonaparte's soldiers, who were obliged to submit to amputation during his disastrous campaign in Russia.

Fatal Psoas Abscess. Dissection.

Case.—On the 19th of October, S. M. B., aged 27 years, was brought to the Hospital from Fairfield county, Ohio, with disease of the spine. When a child, as he stated, he had a slight curvature of the lower part of the dorsal spine. For the last ten years, his health had been bad, and about five years before the time of his admission, the distortion of his spine suffered a considerable increase; a year or two after which, collections of matter began to point, and were punctured by his physician. On being examined, five fistulous openings were found. One directly under the ilio-pubic ligament; one on the under and upper part of the left thigh; one over the gluteus maximus, and two others on the trunk of his body. The discharge from them was a tolerable pus. He had hectical symptoms and was much emaciated. On the 22d, Professor McDowell introduced two setons, over the protuberant vertebræ, and he was subjected to therapeutic treatment. On the 18th of May, 1837, he died, having been subjected, by Professor Parker, to long continued but mild courses of mercury, iodine, cicuta, sarsaparilla, and bitters;

with injections of creosote water, and a solution of nitrate of silver. At times, during his protracted sojourn in the hospital, his general health improved, and he regained some of his lost flesh; but none of the fistulæ closed up, and towards the last, the discharge from them became extremely offensive. It is not necessary to give the details of the treatment, as the case is interesting chiefly for its pathological anatomy. Twelve hours after death, he was examined by Professor Gross, who reported the following morbid appearances:

External Aspect.—Body much emaciated; knees rigidly flexed; legs and feet œdematous, the right more than the left.

Brain.—Membranes sound, and also the cerebral substance, excepting the septum lucidum and fornix, which were much softened, the former almost indeed destroyed; spinal cord natural.

Thorax.—Both lungs every where adherent to the walls of the chest, by ancient cellular tissue, the attachment being strongest along the sides of the spinal column, where it was effected by a greyish adventitious membrane, of a dense fibrous structure, about the twelfth of an inch in thickness, and perfectly organized. Substance of the lungs sound, and without a single tubercle. Pleuretic sac projected on each side fully two inches above the clavicle. Air tubes natural. Some of the bronchial glands calcarious.

Heart.—Somewhat flabby, but otherwise natural. Aorta and great veins sound.

Abdomen.—Omentum considerably wasted; rest of the peritonæum sound, and its sac containing about six ounces of thin straw-colored fluid.

Œsophagus, stomach and intestines perfectly sound throughout.

Liver of the natural color, size and consistence; but here and there was found a small osseous concretion, of a yellowish hue, varying in volume from a pin head to a currant, altogether about fifteen in number. Most of them were distinctly encysted, the capsule, which was of a greyish color and fibro-cartilaginous firmness, being about the fourth of a line thick, and closely adherent to the hepatic tissue, which itself was

quite sound. Gall-bladder healthy, and filled with black, thick, ropy bile, like treacle.

Spleen nearly twice the usual bulk, and somewhat indurated, with several small patches of ancient lymph on its exterior. Near its centre, internally, was found an osseous concretion, similar in appearance and volume to those of the liver.

Pancreas sound.

Lumbar and sacral lymphatic glands much enlarged, extensively tuberculated, infiltrated with serosity, and many of them of a light slate color. A considerable number of them contained osseous concretions, mostly of a spherical shape, about the size of a mustard seed, isolated, hard, and of a yellowish color. In one of these glands there were nearly as many as twenty of these little bodies, of an irregular shape and closely agglomerated.

Kidneys.—The right, of the ordinary size, adhered firmly to the surrounding parts by indurated cellular tissue. The capsule was opake, and slightly thickened, especially in the lower half of its extent; and the outer surface of the organ, of a red mottled aspect, was studded with upwards of five hundred tubercles, some as large as a cherry-stone, others about the size of a mustard seed. In some parts they were agglomerated, in others isolated. In the presence of my colleague, Professor Harrison, and several office-students, I cut some of these tubercles through at the centre, and satisfactorily demonstrated the existence of vessels, the blood standing upon the incised surface in very minute dots.

In the interior of the kidney were two tubercular excavations; one, situated in the superior extremity of the gland, was not larger than a hazel-nut; but the other, which occupied the lower half of the organ, was about the size of a turkey's egg, and filled with thin, ropy, whitish pus, destitute of smell. The abscess was lined by a thick layer of lymph, of a greyish color and firm consistence; and intersecting it in different directions, were three or four rounded cords, the remains, probably, of the tubular tissue, which resembled, a good deal, the fleshy columns of the heart, or the bands which we so often see in tubercular excavations of the lungs. The interior of

the upper half of the glands was of a pale rose color, and very dense in its texture, with here and there a small tubercle.

The right *ureter*, which adhered firmly to the surrounding parts, by dense cellular substance, was of a hard gristly consistence, upwards of half an inch in diameter, and almost closed from one extremity to the other, by a thick lining of lymph.

The right *supra-renal capsule* was remarkably hard, of a greyish mottled aspect, and filled with concrete tubercles, many of them quite large. The left kidney and ureter were natural; but the supra-renal capsule was of a light slate color, and contained several large tubercles.

The *urinary bladder*, scarcely larger than that of an infant, contained about two ounces of thick purulent fluid, resembling that which was found in the right kidney. The mucous coat round the mouth of the urethra, over an extent of about an inch and a half in diameter, was ulcerated. Most of the ulcers were of a circular shape, with reddened, elevated, and slightly undermined edges, and did not reach further than the submucous cellular tissue. The largest was an inch in length, by half an inch in width; the smallest about the size of a split pea. In several of these erosions there was an evident effort at reparation, as was indicated by the strongly adherent lymph which was stretched across their face, and which gave their surface a rough, irregular appearance. Every where else the mucous tunic was perfectly sound. Could these ulcers have been occasioned by the irritating nature of the pus which must have been lodged, from time to time, in this organ?

The Seminal Vesicles were less than one-third the natural size, with very thin, flesh-colored parieties, and filled with curdy, scrofulous matter, of a light greyish tint. The ejaculatory ducts were closed with a similar substance. The left deferential tube was impervious and very gristly; the right was filled with tubercular matter. Some of the follicles of the prostate contained the same kind of substance; but in other respects, the gland was natural.

The right External Iliac Vein, as far as its union with the ascending cava, the internal iliac, right spermatic, vesical, and femoral veins were thickened, some of them very much, and closed with black coagulated blood, which adhered firmly to

their lining membrane by processes of lymph. On wiping away this matter in different places, the internal tunic was found to be opake, rough, and of a red mottled aspect.

We now come to the parts which were more immediately concerned in causing the death of the patient. McBride, as has been already seen, had been laboring for about three years under psoas abscess, with two fistulous apertures in the right lumbar region, and another in the left groin, immediately above Poupart's ligament. On tracing the latter of these, it was found to communicate with a large track, six inches long, by upwards of two in width, situated over the iliac and psoas muscles, and terminating above at the first lumbar vertebra. This passage was much narrower at the middle than at the extremities, and was lined throughout by a dense fibro-cartilaginous membrane, about the twelfth of an inch thick, and of a deep lilac hue, rough on the surface, and bathed with a thin, whitish, ropy pus. Superiorly, this passage communicated with several others, of which one inclined obliquely upwards and outwards in the direction of the inferior rib, where it ended in a sort of cul-de-sac; the rest terminated at the side of the lumbar vertebræ.

The other two apertures were situated very nearly on the same plane, about three inches from the spine. The upper, which was just beneath the last rib, and about one inch in diameter, after proceeding a short distance, terminated in a small, subcutaneous abscess, lined by a layer of lymph; the other, which was much smaller, and placed immediately above the iliac bone, communicated with a fistulous passage, eight inches in length, by two in width, which ran, like that on the opposite side, over the psoas and iliac muscles, commencing at Poupart's ligament, and stopping at the last dorsal vertebræ, gradually contracting in diameter. It was lined by a similar membrane, and bathed with a similar fluid.

The dorsal and lumbar vertebræ were nearly all carious in front, and at the sides bathed with pus, and most of the intervertebral cartilages and ligaments of the former destroyed. The periosteum was over a great extent of surface, and thickened with lymph. On the left side a pretty large abscess existed round the head of each rib, from the eighth to the

twelfth, inclusive; they were filled with thick curdy matter, lined by an adventitious membrane, and most of them communicated with the corresponding intervertebral spaces.

This case beautifully illustrates the morbid anatomy of psoas abscess, and teaches how vain must generally be our best directed remedial efforts, when the disease depends upon caries of the spine.

OPTHALMIC DEPARTMENT.

Cataract.—Extraction.—Closed Pupil.

Case.—Mrs. E. C., of Indiana, admitted October 1st, 1836. Age 57. Constitution and health good. Cataract in both eyes, grey. Eyes not inflamed. The next day after administering a cathartic, Professor Drake proceeded, in presence of the pupils, to extract the lens from the right eye. The excission of the cornea was made without injury to any other part. At the proper time, and under a slight pressure of the eye ball, the lens did not advance, but sunk; and a portion of the vitreous humor escaped. The Professor was obliged to resort to the hook and culette, with which, at length, he succeeded in extracting it. On bringing it out, he discovered a partial adhesion of its capsule to the inner and inferior part of the iris. The capsule generally was decidedly vascular. The incision of the cornea healed up kindly; but a severe inflammation of the conjunctiva and iris supervened. It was met by abstinence, copious blood-letting, and a profuse salivation; but these measures were ineffective, and it was finally subdued by large doses of opium and tartar emetic. The cornea acquired a considerable degree of turbidness, on the disappearance of which, the pupil was found to be contracted, and closed with a plug of coagulable lymph. By mistake, the extract of belladonna had not been applied in due time. The eye gradually lost its morbid tenderness, its vascularity diminished, and on the 26th of November, the Professor undertook to make an artificial pupil. As there was already some opacity of the cornea from the first operation, Cheselden's knife was used, but in attempting to penetrate the iris from behind, it was found to be so tough, and thickened with layers of coagulable lymph, as

to advance before the knife, till it came nearly in contact with the cornea. The incision which could be made was therefore partial, and no retraction of the iris took place. Perceiving that the operation would not be successful, the operator desired Professor Parker, (as the extraction of the lens had shown the cataract to be hard,) to couch the other eye. This he did immediately, but the lens arose so as to obstruct the lower part of the pupil.

A considerable degree of constitutional irritation and nausea, followed these operations, with pain in the eye balls and orbits. Denarcotised laudanum, and soda water, with the external application, by compresses, of a solution of belladona, afforded relief; but inflammation supervened and rendered bleeding, blistering, and the subsequent use of opium and tartar emetic necessary. By these means, she was able in three weeks to return home; having acquired a considerable degree of vision in the right eye, but without a pupil in the left. A late report of her case made at the Infirmary, represents the vision of that eye improving, although some part of the lens was still visible.

Clinical Observations.—At a subsequent time, Professor Drake made this case the subject of various comments.

He said, it might be thought that the severe inflammation which supervened, arose from the neglect of previous preparation of the patient's system; but such he did not believe was the fact. He has operated with and without such preparation, and seen no occasion to regard it as important. On the contrary, it is sometimes injurious, by rendering the patient's system irritable, and thus predisposing the eye to inflammation. The important point is, that the patient should be in health, and the eye free from inflammation; but when neither of these conditions existed, he would, after using due (though it might be unsuccessful) diligence, to restore sound general and local health, perform the operation. Wounds accidentally inflicted on those who are in bad health, often heal up kindly; and a chronic inflammation of the eye may be incurable. Should it be augmented by the operation, the patient cannot be said to be placed under circumstances of much greater difficulty; and may at length acquire a certain amount of vision, which will

diminish his helplessness. As to the degree of inflammation, which may be expected after an operation for cataract, no means of judging *a priori*, exist. Now and then, it will be very small and very great, when the patient seems to have an equal chance of suffering or of immunity. It very often appears to depend on a state of the constitution, of which we cannot take cognizance. The professor has seen a very violent inflammation follow the introduction of the needle, both before and behind the iris, when that organ was not touched; and, at other times, has seen the extraction of the cataract followed by no more inflammatory action, than was necessary to adhesion. The operator, then, should never venture to predict a slight inflammation, and always be prepared for the worst.

On the remedies adapted to traumatic ophthalmia, the Professor remarked, that while venesection and local bleeding are generally indispensable, and in full and high toned systems, absolutely a *sine qua non* to success, they are far from being adequate to a cure, and are sometimes inadmissible, as a species of œdematous inflammation, without fever, occasionally supervenes. He is an advocate for calomel; but is assured by experience, that it will not always arrest the disease; and has, latterly, been led, in many cases, to the use of grain or even two grain doses of tartar emetic. But whether using the former or the latter, he thinks the union of opium, in large doses, greatly augments the efficacy of the prescription. In all severe cases of this kind, he would advise the following, every two or three hours, so as to keep the patient under the influence of the whole:

℞ *Opii. gr.* i. *Calomelan gr.* v. *Tart. Antimo gr.* i.—M. *fiat. pil* 1.

In some cases, the opium may be diminished to half a grain—in others the tartar may be augmented to two grains.

In referring to the difficulty of extracting the lens in this case, the Professor remarked, that there had evidently existed a chronic capsulitis, which had led to a partial posterior synechia. The vascular state of the capsule, taken in connexion with the adhesion, could leave no doubt on this point. Had depression been practised, the injury to the iris might have been less, but still, some degree of iritis would, in all probability, have followed the detachment of the lens from that membrane.

The pupil would not, probably, have closed, if the application of belladonna had not been inadvertently postponed to a late period. In speaking with regret on this point, the professor took occasion to say, that many cases of our endemic and infantile ophthalmia, are productive of closed pupil, from the omission of belladonna or some equivalent narcotic. The stramonium is in all respects equal to the belladonna for this purpose, and every country physician should be provided with it. A saturated tincture of the seeds will answer; or an extract may be formed from the leaves; or what is easier than either, and in some respects preferable, they may be stewed in fresh lard, which should be strained and decanted while hot. The extract of belladonna is often effete before it reaches the consumer, and always expensive compared with our native stramonium.

In the choice of the operation for forming an artificial pupil, the professor believed he had committed an error. The knife of Chesselden is, in fact, not adapted to cases in which the iris, covered with coagulable lymph, and rendered incapable of motion, cannot retract. It is difficult to cut it from behind, and the lips of the wound are apt to come together and unite. There is no certainty of success in such cases, but by removing a portion of the iris; to which end an incision through the cornea, as for the extraction of the lens, but of less extent, is required, when a portion of the iris may be drawn out with the hook, and cut off. Or the incision may be carried through the iris, as well as the cornea, when the scissors of Maunoir may be introduced, and by two cuts, a triangular portion of the iris removed, forming a pupil—much, it is true, to one side of the natural axis of vision, but still the best, perhaps, of which such a case permits. There are cases, the professor continued, to which this mode of operating is peculiarly adapted. They present the union of cataract and closed pupil; of which he gave the following example:

FORMATION OF ARTIFICIAL PUPIL AND EXTRACTION OF CATARACT.

CASE.—Several years since, a young man from Kentucky, applied to him with disorganization of the front of his right eye from inflammation, and contracted pupil and cataract of

the left. The opake lens could be seen through the limited and undilatable pupil. The cornea and anterior chamber were well developed, and healthy. He had been blind for eleven years, and some distinguished surgeons had declined to operate upon him. Extraction of the lens and the excision of a part of the iris, at the same time, were determined on. The patient being placed as for the former operation, the knife was boldly plunged through both cornea and iris, and carried across the posterior disk of the latter, when it was brought out without touching the sclerotica, and the incision completed by the formation of two flaps. The aqueous humor of both chambers, of course, escaped simultaneously, and the solid opake lens followed almost immediately. There was, however, no loss of the vitreous humor, an accident which might be feared under such an excision. The cataract being extracted, it only remained to secure an artificial pupil. To this end, the points of the scissors were carried across the flap, to the centre of the iris, and an incision made; it was to have been followed by another converging to the same centre, so as to take out a triangular piece, but retraction followed the first. No more inflammation supervened than was necessary to the adhesion of the edges of the cornea. No appreciable iritis occurred; the patient recovered rapidly; the aperture was large enough, and remained open. The professor at that time supposed the operation a new one, but has discovered, on more extensive reading, that it was not.

Same operation unsuccessful.

Having been drawn thus far into the subject of artificial pupil, he would state another case, in which the result of the operation was very different.

Case.—Three or four years ago, a young man was brought to him from a workshop in Missouri, where by an explosion, the sight of both eyes had been destroyed. The cornea of the left eye had sloughed off; that of the right was partially opake and adherent near its margin (the upward especially) to the iris. The anterior chamber was, therefore, very small; the pupil was contracted and plugged up with a coagulum of lymph, or had the capsule of the lens adherent to it, which

could not be determined. Presuming that factitious cataract existed, it was determined to operate as in the preceding case. The small extent of transparent cornea, rendered it necessary to cut through an opake part, and bring the knife out upwards. The incision being completed, through the iris as well as the cornea, a milky fluid (the lens) escaped. An attempt was then made to carry a blade of the scissors on either side of the iris; but an adhesion of that organ to the cornea (synechia anterior) had taken place, throughout the whole extent which had been traversed by the knife; and the outer blade of the scissors, could not be made to penetrate into the anterior chamber. The wound healed up kindly. Some time afterwards, the knife of Chesselden was pushed through the scelerotica, and with difficulty carried through the iris, which was pressed against the cornea, but no opening followed; and here again the pain and inflammation were very inconsiderable. Recourse was then had to Scarpa's curved cataract needle, which was carried across the narrow disk of the eye, and plunged through the iris, which could not, however, be detached from its ciliary ligament, because of the very limited space through which traction could be made. The formation of a pupil by coredialysis could not, therefore, be effected; but the iris was thick and inelastic from deposites of lymph, and the hole made in it remained open, forming a very small pupil. It could not be enlarged by the extract of belladonna, nor by the subsequent introduction of the needle. Now and then an object would happen to be placed before it, in such a position as to be seen, but for all practical purposes, the patient returned home as blind as he came.

After narrating this case, the professor called the attention of the class, to the little inflammation or constitutional irritation which followed these different operations; which he ascribed to the severe injury and inflammation following the accident that produced the blindness. The inflammation which then occurred, had transmuted the delicate modifications of the vital properties, which belong to the tissues of the eye, into an obtunded irritability and sensibility, and thus diminished the tendency to inflammation. The Professor has seen many examples of the same kind, as for instance, in repeated operations on the

same eye, for the laceration of the cataract, he has uniformly observed every succeeding puncture to be attended with less constitutional irritation and inflammation than the preceding.

Amaurotic Cat's Eye, mistaken for Cataract.

Case.—November 16, 1836, Miss H. W. was admitted into the Infirmary for blindness. Age about 22. Well grown, and general health tolerable, but suffers much pain in the forehead and orbits of the eyes. When about eight years of age, she had an attack of fever, in the course of which her right eye inflamed, and she found it painful to look in any other direction than downwards. The sight was lost; the eye retaining, as she stated, its natural appearance, except that the pupil was enlarged. About seven years afterwards, while she was running down a hill, a mist suddenly appeared before the left eye, and her vision became much impaired—and was gradually lost to such a degree, as that she had no distinct perception of objects. A more minute account of the progress of disease in this eye, could not be obtained. Being thus reduced to blindness, she applied to a physician, who decided on operating for cataract on the eye first affected. He introduced the needle behind the iris, but no improvement of sight ensued. The inflammation was severe, and was followed by closed pupil and some opacity of the cornea, which was the condition of her eye at the time of her admission into the Infirmary. Regarding this eye as lost, Professor Drake directed his attention to the other, with which the patient had a lively perception of the difference between day and night, and could even detect slight variations in the quantity of light, when the hand was passed between her eye and the window. The cornea was sound. The pupil regular in figure, but too large, and quite sluggish in its movements. Its color, under reflected light, inclined to slate. Such, as her friends stated, was precisely the appearance of the other eye previous to the operation. Professor D. directed the pupil to be enlarged to its utmost extent with belladonna, and then placed the patient in the sun. This direct light beautifully illumined the concave of the eye, which presented a pearly hue, with enlarged or varicose vessels, ramifying upon it. Under reflected light this appearance could not be seen.

The professor suggested, that a similar method might be employed in all cases, in which the diagnosis between cataract and amaurosis is difficult. He doubted the existence of black cataract; but, of course, it was possible. It could only be confounded with partial amaurosis. If the eye should be inspected by the direct rays of the sun, after the pupil was dilated, some change in the aspect of the choroid and retina would perhaps always appear, if the disease were amaurotic.

Jan. 12, 1837.—The patient returned to the Infirmary, anxious to be subjected to some remedial measures, especially electricity. Professor Parker, introduced a seton into her neck, and put her on the use of pills composed of equal parts of the blue mass, ipecac, and rhubarb, with the nitro-muriatic bath, to her hands and feet, and an occasional small bleeding. A blister was also applied to the left temple, and sprinkled every night with strichnine. Under this treatment, she thought her vision somewhat improved, and the pains about her forehead and temples were relieved. Electricity was then resorted to, and its use continued daily for several weeks. Slight shocks were passed through the orbit, and currents and sparks of electricity made to pass to and from the eye ball. No obvious benefit, however, came from this treatment, and she was discharged as incurable.

Morbid Sensibility of the Eye.

Case.—On the 5th of May, 1837, J. E., aged 33, arrived at the Infirmary from a distant part of Indiana. He was brought in a wagon. His eyes were protected with deep green goggles. Before they were removed, he stated that within two years he had suffered several attacks of inflammation, the last of which, in the month of January, had been very severe, and left his eyes so "weak," that he could not bear the light, or keep them open, and that he feared he was going blind. "If Dr. Drake would not promise to cure him, he must go to Dr. Dudley, or to Philadelphia." Professor Drake advised him to proceed to Dr. Dudley; he asked, however, to have his eyes examined. On removing the goggles, no special morbid appearance was perceptible. The conjunctiva and iris appeared healthy; there was no puriform discharge, and the pupil had

its natural play and dimensions. There was simply an inordinate sensibility to light. His general health appeared pretty good, except that he was costive. He had put on goggles during the attack of ophthalmia four months before. It was near sunset when he reached the Infirmary. Professor Drake ordered his goggles locked up, and directing a room for him, promised to decide on his case the next day, meanwhile administering a cathartic. In the morning, the light embarassed him, but at the prescribing hour, he was able to descend to the office, with no other shading than his hat. His eyes were re-inspected, in presence of the pupils, and the professor gave the opinion, that it was only the morbid sensibility consequent upon the inflammation, *prolonged by the exclusion of light.* He was left to walk about the Infirmary, wearing his hat, and advised to expose his eyes to all the light he could bear without actual pain. On the second day, they were much "stronger." No local or general remedy was employed; but, much to his astonishment, he improved daily, and in a week started home quite restored.

Case.—In the month of June, a gentleman from Kentucky applied at the Infirmary for an alleged malady of the right eye. It was covered with a goggle lined and matted inside, so as entirely to exclude the light. The eye had been moderately inflamed, not long before. It now looked very well. Professor Drake laid the goggles by, and directed him to call daily. For a week he transacted business in the city with his eye exposed, and returned home apparently well.

Professor Drake observed on these cases, that he has repeatedly seen a morbid sensibility of one or both eyes, increased and prolonged, by the injudicious exclusion of light. He thinks the doctrine, that Mr. Stephenson, in his little work on Morbid Sensibility of the Eye, has labored to establish, is full of error. He admits, that there are cases of morbid sensibility dependent on inflammatory engorgement of the optic nerve and retina, but thinks they are few in number, compared with those which arise from the cause just mentioned. He presumes that had these patients been treated on Mr. Stephenson's plan of local depletion and other antiphlogistics, and

light still excluded, they would have got worse instead of better. He has often seen that plan fail, and one precisely the opposite succeed; and referred briefly to the following

Case.—Several years ago, a woman, from Indiana, applied to him for "weak eyes." She wore deep green glasses, a shade, and, on going out, a bonnet and green veil. She had kept in a dark room for eighteen months. There was no visible inflammation. He subjected her to depletory treatment without effect; and then adopted the opposite, giving her the cinchona with chalybeates, and, gradually exposing her eyes to greater light. In a short time, she was able to walk half a mile to the steamboat, under a summer's sun, at noon, with nothing but a veil before her eyes, and returned home.

The Professor is of opinion that the curative influence of darkness in maladies of the eye, generally, has been over rated. He even thinks it has often done harm. The eye inevitably becomes irritable and unhealthy under such exclusion, which he compared to total abstinence from food, and every gastric excitant. He has seen the general health impaired by long continued confinement in a dark room; and the symptoms of ophthalmia thereby augmented, leading to increased energy in the use of antiphlogistics, when stimulants and tonics, with fresh air, and light were required. Whenever, in ophthalmia, stimulating collyria are proper, the eyes should be exposed to light. In concluding his clinical exhortations on this subject, the professor protested against the common custom among the people, of putting on green glasses, for every slight infirmity of the eye. Students, he remarked, often do themselves great injury by this practice. If the eye becomes disordered, let it be treated with energy, according to the nature and degree of the affection. This, whatever it may be, will seldom cease under the mere reduction of light; and as such reduction is often relied upon to effect a cure, it does harm by diverting the patient's attention from other and more efficent means.

Art. II.—Clinical Introductory.

The Indications of Cure in Diseases: An Introductory Lecture, to a Course of Clinical Instruction in the Cincinnati Hospital. By John P. Harrison, M. D., Professor of Mat. Med. and Pharmacy, in the Cincinnati College.

Gentlemen:—I shall begin my course of Clinical Instruction in the wards of this Hospital, by delivering to you my views, in reference to the true curative indications, which should govern us in the administration of remedies. And it affords me much pleasure to meet you on this occasion, and to have this favorable opportunity of expressing to you my conceptions of general pathology, and the just and legitimate grounds upon which all rational medical interference in disease is to be established. Here is the great terminating point of all our acquisitions in medical science—it is at the foot of sound clinical practice that all our principles and facts, our dogmas and data, are to be laid. For the re-establishment of our patient's health—for the restoration of his normal physiological state, we toil at the preliminary studies of our science, and expend our painful researches into the records of medical erudition. In order to become good, safe, and efficient practitioners of medicine, we bend over the mangled *cadaver*, and dissect fibre after fibre, and explore cavity after cavity, and pursue nerve after nerve, and vessel after vessel, till the whole complex structure of man is revealed to our sight.

To cure the sick, we open and dissect the dead; to relieve the painful maladies incident to the human economy, we rifle nature of her secret articles of potent activity, and subject them to various processes to make them yield up their medicinal virtues. Anatomy, physiology, chemistry, botany; these and other indispensable elementary branches of study, all stand with eager and obedient willingness, to minister their lights, and pour in their contributions, to this great central point of all our efforts.

In yonder edifice, the science of medicine is taught by my colleagues and myself. In the lecture-rooms of the Cincinnati College, we endeavor, during four months of the year, to teach with minute precision, copious illustration, and instructive emphasis, the truths and doctrines—the facts and principles of the science of medicine. And, gentlemen, not satisfied with the ordinary mode of inculcating the truths of medical science by prelections, the

Faculty of the school have, as you are aware, opened this asylum for the sick, that suffering humanity might not only receive such aid at our hands, as the exigent condition of the sick might demand, but likewise, and principally, that here those practical lessons of disease might be given, which are of such moment in constituting students of medicine accurate judges of morbid actions, and of the best means for their removal. We live in a practical age, and all idle and visionary speculations are fast fading away, in the dim twilight of neglect and oblivion.

The professors of the Cincinnati College strive to be effective practical teachers of medicine—they wish no higher glory to attach to their names, should they be fortunate enough to be enrolled among the sons of light in the history of our science, than that they successfully labored to elevate medicine among the certain sciences, and to confer upon it a higher and more diversified capability of practical usefulness.

The voice of instruction within the walls of our school, we wish to be echoed within the wards of this hospital. The principles inculcated there, we desire to be exemplified here. What the lips of the lecturer there teaches, we hope the more eloquent appeals of nature will here confirm and re-enforce.

The object of therapeutics, is the discovery of the true indications of cure in diseases—the object of materia medica, is to select suitable remedies for the fulfilment of such indications. By indication of cure is to be understood, the end or final point to which we direct our remedial measures. Thus the indication of cure in a recent incised wound with clean edges, is to produce re-union by the first intention; and to attain this end, the lips of the wound are brought, and kept in a state of coaptation. And so likewise we say, that the indication of cure in pleurisy is to relieve the pulmonary organs of the embarrassment in their great function of respiration, arising from the inflammation of their pleural investment, by a subdual of the anormal action going on there. This we accomplish by the energetic employment of the lancet, by tartar emetic, and counter irritation.

But an important question meets us at the very threshold of this discussion—which is this: Does nature to any just extent, and with any degree of intelligible language, impart to us a sound knowledge of curative indications? In other words, before the physician interferes at all in disease, should he wait to see the evolutions of nature's efforts, or should he at once, after a careful scrutiny of the case, take the matter in his own hands?

This is a question of such practical consequence, that I hope to have your most dispassionate and yet earnest attention to the remarks about to be submitted on it.

You often hear nature magnified and glorified for her recuperative powers. *Natura morborum medicatrix*—nature is the

physician that I trust to, says one. Nature must be our guide in sickness, and we must do nothing contrary to her indications, says another. We must leave much to nature, adds a third. Well, gentlemen, let us see how far these propositions will carry us, were we to follow their light. If nature is a real, medicating, restorative agent, endued with a skilful power to cure, then, let us abandon physick, and not harass our patients by multiplying officiously unnecessary aids.

The very fact, that a doctor of medicine is called in, is abundant proof that nature is not adequate to the recovery of the patient. Well! but nature, though not alone sufficient to cure, should be consulted before we prescribe. But how consulted? as a medical adviser, or as a witness. Most certainly the latter. What constitutes the essential character of disease, as contradistinguished from health? Disease is the usurped control, or ascendant influence, of the inherent tendency of all organized bodies to change their form—in other words, in proportion to the severity of the morbid process, will be the diminution of the authority and dominion of nature. By nature is meant the laws of the economy, to preserve the normal, physiological condition of the body. We are not now speaking of the capability of these laws, within certain limits, of restoring the system to health, after disease is arrested. Nor do we now bring up for discussion, the question of the ability of the spontaneous actions of life, to rid the organism of disease. The question now under consideration is, whether nature furnishes us any available or valuable indications of cure in disease? I answer, she does not. There is not a single morbid phenomenon which, fairly interpreted, the physician can trust as a faithful indication, to a sound practice at the bed side. Take gastritis as an example—here we have an irritable stomach—with an urgent tendency often to vomiting;—well, do we obey the indication presented by this gastric irritability, and urge on the emesis by our remedies? Assuredly not. Take another example. Here lies a patient, ill with apoplexy; what indication does nature here present, as physician to her own oppressed state, capable of being made available to her relief? Not one. We must therefore consult nature, not in her medicating interferences, but merely in her signals and demonstrations of disordered action;—not look on her with the hopeful eye of one who expects her to hold up her finger to us, to guide us in the true path of practice, but scrutinize her symptoms with the eye of a friend, who, with earnest regard, desires so to interpret her signs and evidences of derangement, as to ascertain how, to what extent, and in what localities, she is oppressed; and then devise and execute plans of relief and restoration.

Medicine is from beginning to end, an artificial scheme of restoring the sick. The sick have no desire for medicines, they nau-

seate them, they take them by constraint, and not by any suggestions of the organs, nor from any indications which the patient is enabled to discover for their employment. Careful observations, patient trials, and logical deductions, must be employed most assiduously to make a good practitioner. It is worse than idle, nay it is very mischievous to the cause of practical medicine, for us to rely in any degree upon the medicating powers of nature, as affording any sound ground-work for curative indications.

Does the vitality of the blood afford any legitimate therapeutic indications? No. Then why, with fond and illusive earnestness, speculate about the supposititious, inherent, independent vital endowment of the blood? Why, with a fervid fancy, heat our minds in the chase of a nonentity? The appearances of the blood drawn in disease are too ambiguous to be relied on, as affording indications of cure. There are few, very few enlightened physicians of the day, who place any firm reliance on the manifestations of the blood in the vessel, in which it has been drawn by the lancet, as indicative of the nature and seat of a disease. The sizy, and cupped states of the blood in connexion with the symptoms and results of our remedies, may conduce to a just diagnosis; but no exclusive reliance can be safely reposed in any appearance of the blood, after being deposited in the vessel. The size of the orifice, the shape and size of the vessel receiving the blood, and even the distance which the stream traverses before it passes into the vessel, essentially modify the aspect of that fluid.

How far can the Humoral Pathology assist us, in the detection of the true indications of cure in disease. Does this antique, venerable and much venerated system of pathology, throw any light on the true therapeutical indications by which scientific medicine is to be governed at the bed side? Here is the field on which this time-hallowed and hoary-headed theory, or rather hypothesis, should achieve its most signal triumphs. But alas for its advocates! It deserts them at the bed side; and at the very moment when its illustrations and enforcement are most anxiously anticipated, like the fabled hero of the Æneid, it escapes in a cloud from the scene of action, and leaves its votary to seek for other aids and better lights to guide him.

There is not an intelligent practitioner in modern times, who seriously adverts to these morbid matters of the blood for the indications of treatment in disease. Much is said, aye, and said often most plausibly and eloquently, about the probabilities of the blood being contaminated, but we read of no certain proofs being given on the point. There are no chemical analyses appealed to, by which we may have verified and authenticated such suppositions; there are no distinct positive announcements made, that by taking a little blood from a patient's arm in fever, or any other disease, we can ascertain by its taste, color, acid or alkaline nature, the

nature and seat of his complaint. There is not a single indication of cure, that we can build on these supposed morbid states of the blood. We never seriously advert to morbific matters floating in the blood during life, as affording us any direction how to proceed in our plan of remedial measures. And after death, what medical man is there, however impregnated his faculties may be with these humors of fancy, who in sober trial, ever makes an appeal to humoralism, to impart information to his mind, in reference to a just pathology of the malady which destroyed the patient.

Diagnosis is the basis of all scientific medicine at the bed side. To establish a just diagnosis, we must have certain land-marks, by which our clinical inquiries are to be guided. These land-marks are, 1st. disordered sensations, 2d. disordered functions, and 3d. disordered structure. Or they may be expressed by the terms lesions of innervation, lesions of function, and lesions of structure.

Disease is denoted by one, or all, of these departures from a normal or physiological state, and may be generalized under the heads of Irritation, Inflammation, and Fever. To ascertain that our patient is ill, and the extent or intensity of that illness, we first make inquiries into his own sensations; secondly, investigate the state of the various functions of the body, beginning at the head, thence descending to the thoracic and abdominal viscera, and terminating our inquiry by a reference to the condition of the skin. In this inquiry, we, in a special manner, refer to the circulatory and nervous systems; and by a strict examination of the pulse, the state of the tongue, the decumbitus, etc., endeavor to arrive at correct conclusions respecting the constitutional, as well as local, disturbances, which the disease may have set up, or from which it may have originated.

In all our clinical perquisition, we must ever strive to attain precise views relative to the kind, as well as locality of morbid processes. The theory of Rush and Broussais, that disease is a unit, is contradicted at every step of our investigations at the bed side. The study of clinical medicine would be comprised in two propositions, were this theory of the unity of morbid action correct: 1st. Increased action, 2d. Diminished action. Hence but two indications would guide us—to diminish action where it is augmented, and to augment it where it is diminished. And the practice of medicine, as legitimately grounded on such a pathological conception, would comprise the lancet in one hand, and the brandy bottle in the other.

We determine the deviations from healthy action in the system, by an accurate inspection of the symptoms, as well as by the history of the seizure, and the effects of remedies which may have been employed.

Signs and symptoms are not the same. A sign is the index of a thing, and admits of only one interpretation. Thus we say, and say correctly, that the rise or fall of the mercury in the thermometer, or barometer, is a sign of the increase or diminution of the heat or weight, of the atmosphere.

A board with a certain direction on it, at a particular turn of the road, we call a sign-board—there it stands, pointing one way, telling us one plain thing. But a symptom may be, or it may not be, a true sign of a certain morbid affection. To become a true or legitimate sign of a morbid process going on in the animal economy, a symptom must have the light of a lucid and accurate interpretation thrown upon it, by the investigating mind. Symptoms are often ambiguous—they deal with us in a double sense, and unless a due degree of wariness attend the clinical examiner —unless one symptom is construed by the reflected light of another symptom—we shall often commit sad and serious mistakes in our pathological inferences. Take but one example. Here, you see one man affected with severe pain in the stomach, with jactitation, and cold clammy skin;—there, is another patient with gastric pain equally severe, and a restlessness as great; but in the one case, there is a comparatively calm, equable, fluent pulse; in the other, there is a small, contracted, hard, incompressible, quick pulse. Here the pulse is denotive of the essential difference of the two cases—one of slight indisposition, perhaps gastrodynia, or indigestion; the other a severe and dangerous gastritis.

Besides the symptomatology, we are often aided in our clinical inquiries, by the physical signs of disease in the thoracic, abdominal and pelvic regions. The genius of a Corvisart, and a Laennec, has brought into requisition and successful employment, anscultation, as an important diagnostic means for the elucidation of many an enigma in clinical medicine;—percussion, palpation, and anscultation, mediate and direct, have opened to our minds a hitherto much neglected source of examination in many obscure maladies of the heart, lungs, and abdominal and pelvic viscera.

We have determined that our patient is ill—1st. By his sensations; 2d. By the deviations of functions, and 3d. By the aberrations of structure, through the symptoms and physical signs. We next determine what the *nature* of his complaint is; whether it is irritation, inflammation, or fever. We afterwards determine whether the case is primarily referable to a constitutional, or to a local origin; and upon these different but coincident elements of a just and enlightened conception of the patient's state, we establish our indications of treatment.

To exemplify—take a case of neuralgia. Here we have only the declarations of the patient to guide us in the ascertainment of his sufferings; but we can, by a careful scrutiny into the case, find out, perhaps, how the general system is at fault, and how the

habits of life, of the patient, may modify the existing condition of things, and vary our plan of treatment. Neuralgia may exist, nay most frequently does exist, without inflammation. Sometimes it is dependent on some local irritant, such as a tumor pressing on the nerve, or a spicula of bone, or the remnant of a fine needle, irritating the nerve. At times there exists a gastric disturbance, or hepatic derangement, or irregularity of the uterine function; but often there seems no local origin of the affection.

There are many practitioners, since the publication of the work of Teale, who regard neuralgic complaints as having an exclusive origin in the spinal cord. We read and hear a great deal about spinal irritation; but this pathology is too indefinite; it is only, indeed, a modified form of the old doctrine of the nervous system being the source of the disease. We know this without any parade of discussion about the matter; the nervous system being affected, whether in the spinal or cerebral portions, or in the distributions of it, the question is, *why* is it, and *how* is it affected? But these questions I shall resume in the lecture which will be devoted to the discussion of neuralgia.

Diseases differ in their nature, as well as points or sources of origin, and modes of termination. There is such a thing as irritation, distinct from inflammation; and there is a pathological state entitled fever, distinct from both irritation and inflammation, though frequently partaking of both of these conditions, or modes of abnormal action. But neither is irritation, inflammation, nor fever, a unit. Irritation varies with the cause originating it, with the seat it occupies, with the constitutional peculiarities, the age, sex, and other modifying circumstances; and so does inflammation, and likewise fever.

To erect judicious indications of cure on the ratio symptomatum, we must, then, ascertain the nature, and seat of the disease. Is it irritation, or is it inflammation, or is it fever? If irritation, or inflammation, how is the constitution affected? Is it deeply implicated in the local complaint, or does the local complaint depend upon the state of the system? What is the state of the circulation? What the condition of the liver, bowels, kidneys, and skin, as respects their secretory products? What the condition of the general apparatus of innervation, and of the digestive functions? These and other points we must ascertain. In all our prescriptions, let us ever, with watchful eye, advert to the state of the secretions; for from this quarter we shall gather a pretty sure diagnosis of our patient's danger. To restore the secretions is a great leading indication in disease. Blood-letting, emetics, cathartics, nauseants, narcotics, etc., are often but preliminary means to the re-establishment of the secretions.

Another leading indication, often presented to the judgment of the skilful practioner of medicine is, to derive action from the

organ undergoing a morbid process, to another part—hence the benefits often resulting from what is termed revulsive medication. In an enlarged view, we might fairly consider emetics, cathartics, nauseants, diuretics, diaphoretics, etc., as all, in a greater or less degree, subserving a useful curative end, by their revulsive powers. But among the more technical counter-irritants, or revulsives, we place blisters, setons, cauteries, etc. We often employ one class of internal remedies with this indication in view—purgatives are often brought into requisition when we wish to derive action from the head, or from the joints, in the inflammatory affections which seize upon those parts. In chronic complaints of a local character, revulsive medication is too much neglected. A permanent discharge kept up by a seton, or issue, will do more in many local inflammations, than all other means of cure. In dropsy, we often transfer action from one portion of the capillary system to another. Our diuretics act by deriving action from the exhalent capillaries of the cellular texture, or of the peritoneum, to the kidneys; and thus, by an arrest being put to the increased secretion of the part originating the hydropic effusion, the absorbents pursuing their regular function, the fluid is taken up.

Another indication of a leading kind, which frequently demands our medical interference, is that of direct depletion. The great agent for the cure of acute inflammation is the lancet. This powerful remedy, is often brought into active employment. Bloodletting, general and local, purgatives, low diet, nauseants, emetics, cathartics, these are our great means for the fulfilment of this leading indication of depletion, or debilitation. This indication is more frequently our guide in disease than any other single indication. To deplete judiciously is the main purpose of treatment in numerous maladies. The Italians talk of the contra stimulant property of tartar emetic; but I attribute its virtues as a remedy in pneumonitis and other phlegmasiæ, to its alterant rather than its contra stimulant power.

Another leading indication, which sometimes draws upon our remedial resources, is debility:—stimulants and tonics, are however, much abused medicines; and debility, in the majority of instances, is nothing but a symptom of inflammation, irritation, or fever; and in consequence, is to be incidentally treated by a strict reference to the cause originating it. Debility has been elevated into a commanding position, in the etiological scale of some medical authorities. Debility of the heart, gives rise to congestion, say they, of the portal circle; and this, in its turn, plays a most conspicuous part, in all the morbid phenomena witnessed. Consistently with this theory, all remedies which further debilitate the action of the heart, should increase the abdominal congestion, and thus by our depletory plans—the only generally successful plans

in febrile affections, and inflammations—we should but increase and perpetuate disease, instead of curing it.

Here we see a palpable contradiction between speculation and experience; and therefore debility should not be regarded, in the vast majority of diseases, as any thing more than a symptom of morbid action; for in proportion to the intensity of the functional disturbance, and structural lesion, will be the degree of debility.

An additional indication of treatment, is frequently brought to light in the medical procedure to be had in irritation, inflammation, or fever—which is an alterant, or alterative plan of treatment. Now, we call that medicine an alterant, which, without any direct depletion, stimulation, or any other immediate obvious result of agency on the nervous, circulatory, or secretory apparatus, subverts morbid action, and restores health. Mercury is our great alterant; yet mercury may, and often does, incidentally, excite the heart's action, or depress the powers of life, as the case may be; and almost uniformly, when its alterant operation is of a benign restorative character, promotes the secretions. And yet the superior curative agency of mercury is not owing to any one, or all of these accompaniments, or consequences, of its constitutional action, but to its peculiar alterant powers. When judiciously administered, in very minute doses, it produces its beneficent results with no appreciable direct interference with the nervous, circulatory, or secretory apparatus. At one period—for instance, in the days of Sydenham, it was universally thought by medical practitioners, that the remedial efficacy of mercury was owing to its immense capability of increasing glandular action; and hence, when a patient was placed under a course of mercury, his mouth was made very sore, and the saliva by pints was made to flow from his mouth, from day to day, till all the morbific matter in the blood had escaped. The rapid manner in which mercury checks the inflammatory process, and arrests the deposition of coagulable lymph, as for instance in a case of iritis, demonstrably evinces, that it has some peculiar controlling influence over the capillary system.

There are many, very many cases of disease, which call for the curative agency of alterants. We have mercury as the great anti-inflammatory, anti-febrile alterant—we have arsenic, sarsaparilla, nitric acid, and iodine, as alterants endowed with characteristic properties variant from those possessed by mercury. And lastly, often there springs up in the progress, or is presented from the commencemeut of a complaint, an indication for the administration of a peculiar set of remedies, which act in quieting the disturbed actions of the nervous system. These we denominate anodynes; and a very important and useful set of medicines they are in numerous cases of curable, as well as incurable diseases. Often is it of the last moment to the recovery of our patient. that sleep

shall be procured. And as often is it essential to the successful issue of our plan of treatment, that urgent pain be subdued or alleviated, and the irritability of the system be calmed by the interposition of some narcotic remedy. Opium stands pre-eminently distinguished as a soother of pain—as the *magnum dei donum*—the great gift of God, to remove, or mitigate the sufferings in many maladies, to which our mortal frames are subject.

Pain is often but a symptom of inflammation; and of course the indication in inflammatory affections is not to attempt the deadening of pain by anodynes, but to cure the inflammation, and then remove the pain, if it should continue.

Pain is likewise often the result of disturbed or suspended function—thus we have intense uterine pain in dysmenorrhœa;—here anodynes are called for, to alleviate the sufferings of the patient, though we do not remove the cause, the functional irregularity of the organ, by their exhibition. Suspended, or disturbed function in one organ, often induces pain in another. Thus cephalalgia is often produced by the torpid state of the bowels;—here a purgative will be the best anodyne.

After active depletion by the lancet in inflammatory attacks an anodyne is often of sovereign efficacy in quieting the system, and diffusing an equable excitement to the great relief of the suffering organ. Anodynes are often indicated as corrigents of other medicines.

These, then, are our indications of cure in disease:—1st. The promotion of healthy secretions; 2d. The derivation of action; 3d. Reduction of the activity of the powers of life; 4th. The invigoration of the vital energies; 5th. The alteration of capillary action; and 6th. The subdual, or mitigation of pain and irritability,

But in the wise government to be exercised over the diversified modes in which irritation, inflammation, and fever affect the powers of the organism, and the endless ways in which they interchangeably run into, and reciprocally influence each other, we are often called on to adjust our prescriptions by a conjunction of two, three, or even more of the different articles, which operate to the fulfilment of our indications.

Irritation, as I shall hereafter endeavor to prove, is the primal link in inflammation; but irritation may exist in some of its forms or phases, without inflammation; though inflammation cannot obtain without the antecedent occurrence of irritation.

Fever, as I hope to prove to you hereafter, may exist as an idiopathic affection, though fever cannot exist many hours without the danger of awakening inflammation in some vital portion of the system. And this tendency of fever to the production of inflammation, has given origin to the various theories of the local origin

of fever, which, from time to time, have been so popular in the profession.

I earnestly recommend the subject of therapeutic indications to your zealous attention. It is a subject of great practical consideration. Sydenham seems to have deeply felt the momentous importance of the questions involved in the establishment of true curative indications; for, says that sagacious practitioner, "the practice of physic chiefly consists in being able to discover the true curative indications," And in another place he says "whoever considers the matter thoroughly, will find that the principal defect in the practice of physic, proceeds, not from a scarcity of medicines to answer particular intentions, but from the want of knowing the intentions to be answered."

And Boerhave, in the preface to his Aphorisms, remarks, that "it is the very characteristic of a good physician to make a true indication."

Without a knowledge of indications, the physician becomes a mere unscientific administrator of drugs.

Art. III.—Morbid Anatomy of the Liver.

Outlines of the Morbid Anatomy of the Liver. By S. D. Gross, M.D., Professor of General and Pathological Anatomy, in the Medical Department of the Cincinnati College.

That correct views may be entertained of the morbid changes of any organ, it is necessary that the student should have a thorough knowledge of the appearances which it presents in the normal state. Without a competent share of information of this kind, it is obvious that no physician, whatever may be his talents or acquirements in other respects, can successfully fulfil the duties of a pathological anatomist. So numerous, indeed, are the sources of fallacy, that even the most enlightened members of the profession sometimes fall into the most egregious blunders; and if this be the case, in regard to them, how much more likely must mistakes be to happen in the hands of the young and inexperienced, who have seldom ever been present, perhaps, at a necroscopic examination. That some are naturally better calculated to conduct such researches than others, cannot be denied; for there are those whose vision, both physical and mental, is so obtuse as to disqualify them forever from the task. But let no man deceive himself. There is no royal road to knowledge; and he who would become respectable, even as a morbid anatomist, must study; nor must he limit his attention, as is so often done, to the confines of the principal organs of the body. With scalpel in hand, he must penetrate every part,

and bring to light every thing that nature has taken so much care to hide from his observation. Superficial examinations are worse than useless. From the tendency they have to lead to false deductions, errors of practice, often the most fatal, may be the result. Nowhere is the maxim "*whatever is worth doing should be done well,*" more applicable than in the present instance.

In accordance with these principles, which should be inscribed upon every physician's conscience in letters of gold, I proceed to take up the consideration of the healthy structure of the liver, preparatory to entering upon that of its various lesions. The remarks I intend to offer, shall be as concise as may be properly consistent with the main object of this paper.

1.—The liver, situated, as every body knows, in the right hypochondriac region, together with a part of the epigastric and left hypochondriac, is a large glandular organ, from ten to twelve inches in breadth, from six to seven in length, and from four to five in thickness. In *weight*, it varies from two pounds and three-quarters to three pounds and a half; consequently, it may be said to constitute about the thirty-fifth part of the entire weight of the human frame. Its volume, however, it should be observed, is much influenced by the state of its own circulation; a circumstance which might be anticipated from the immense quantity of blood which is continually poured into it by the hepatic artery and portal vein. Of the extent of this influence, a good idea may be formed by removing the liver from the abdomen, and washing out its fluids; when its bulk will be found to be considerably diminished, as is shewn by its collapsed and wrinkled aspect. Nor is this all. Whatever has a tendency to retard, interrupt, or prevent the return of the blood from the hepatic veins to the right side of the heart, must induce congestion, with all its necessary evils, in the organ under consideration. Hence it is found that disease of the liver is often directly dependent upon lesion of the heart or large veins.

2.—That the *color* of the liver, the next subject to be noticed, should be modified, and, if I may so express myself, controlled, by the amount of blood which it receives, no one can for a moment doubt. Accordingly, we find, that, in the fœtus, in which the liver is always remarkably vascular, the color is much more florid than some time after birth, or in the subsequent periods of life. In the adult, it is generally of a reddish-brown, with spots of blue, particularly along the anterior margin and under surface. In persons who are hung, the liver is usually of a deep pink color; sometimes quite purple. Such, in a few words, is the healthy complexion of this important organ. How it is altered by disease, will appear in the sequel.

In simple *congestion*, the hepatic tissue is generally of a florid red; the arteries and veins are preternaturally distended, and blood

flows freely on making sections of it. By a careless observer, this condition of the liver might be confounded with inflammation; but may be readily distinguished from it, by the greater uniformity of its color, by its pervading the entire organ, and by the facility with which the blood may be squeezed from its vessels. Dr. Kiernan, of London, has recently shewn, that when the congestion results from the portal veins, the granules are the parts which are most vascular; whilst, when it is caused by the hepatic veins, it is most distinct in the intervening cellular tissue. When both systems are filled with blood, the redness will be equally conspicuous in both textures. This is an important circumstance, and should not be lost sight of in our investigations.

3.—The *parenchymatous structure* of the liver is very fragile and lacerable, yet so compact that it cannot be much compressed. When torn, it assumes the appearance of small polyhedral granules, each of which may be considered as a perfect gland, as it is furnished with an appropriate excretory duct, together with nerves, blood-vessels, and absorbents. Their size equals that of a millet-seed, and their number is incalculably great. Lodged each in a distinct capsule of cellulo-fibrous substance, they are of a lighter color usually than the surface of the liver, and when a section is made of them, they appear to be porous; though whether this be really the case or not, is a point upon which anatomists are still undecided. Around them may be observed, in a collapsed state, the branches of the portal vein, accompanied by those of the hepatic artery, and those of the hepatic duct, the latter being frequently distinguishable by the exuding bile.

An important question here arises, not only in a physiological but also in a pathological point of view, namely: Are there two distinct sets of granules in the liver? Ferrein, Meckel, Andral, Hope, and other highly respectable anatomists, think that there are; and in support of their opinion, allege that in certain diseases of the organ, they are distinctly perceptible, one being yellow, the other red. Without entering into an elaborate discussion of the subject, which the limits of this paper would render improper, I shall content myself by observing, that, so far as my own researches go, I see no reason for adopting the sentiments of these eminent authorities. Nor am I singular in my want of orthodoxy upon this point. Professor Cruveilheir, of Paris, who may be considered as decidedly the best anatomist, both descriptive and morbid, of the present day, positively asserts, upon the evidence of a series of the most carefully conducted observations, that there is only one order of hepatic granules, lying in juxtaposition, and having each a cellulo-fibrous envelope.* The same sort of testi-

* Anatomie Descriptive, Tome ii. p. 567.

mony is borne by Dr. Kiernan, in his admirable monograph on the structure and functions of this organ, published in 1833. He states that he has satisfied himself by repeated injections, by examinations with the microscope, and by experiments on living animals, that the two species of granulations described by Andral and others, are perfectly identical, both in their texture and office; and he attempts to account for the error into which they have fallen, by refering the difference of appearance to a difference of congestion, the color of these bodies being red when the portal capillaries are engorged, but light yellow when there is distention of the minute branches of the hepatic veins.

In the liver of the hog, in which these granules are unusually distinct, and of a polyhedral form, I have repeatedly looked for these two orders of acini, but never, in a single specimen, have I been able to make them out. For this reason, therefore, as well as from the testimony of the French and English anatomists whose names have been quoted, I am warranted in the conclusion that they do not exist.

In the infant, the acini are much less distinct than in the adult. When a section is made, the parenchymatous substance seems to be much more homogeneous, and if torn, it does not exhibit such a well-marked granular aspect. Its consistence, also, is more tenacious, and the organ is much less liable to rupture from accident.

4.—The liver is enveloped by two *tunics*, which, although they are intimately connected, differ from each other widely in their structure, and in the purposes which they are destined to fulfil in the animal economy. Of these, the external, after covering the greater part of the surface of the organ, forms a number of folds, improperly called ligaments, which unite it to the diaphragm and wall of the abdomen. Derived from the peritonœum, it is perfectly transparent, smooth, and lubricated, for allowing the liver to move, without detriment, upon the surrounding parts. No vessels can be discerned in it in the healthy state; and when diseased, it often adheres to the neighboring structures by bands of adventitious cellular tissue.

The other membrane, usually named the *proper coat*, is much the more important of the two, inasmuch as it may be considered as constituting the frame-work of the entire organ. Not only does it enclose and sustain the liver, but sends thousands of processes into its interior, which, intersecting each other in every conceivable direction, form so many minute capsules for the hepatic granules. Thus, each of these little bodies may be viewed in the light of a representative of the entire gland, as it is not only furnished, as already stated, with appropriate vessels and nerves, but likewise with its own proper covering.

In structure, this tunic assimilates itself to the fibrous membranes. It is by no means so close and thick as the pericardium,

with which, however, it has many important characters in common. Thus, for example, it is composed of fibres which interlace in different directions, and is in contact on one side with a serous membrane, which, in both cases, answers a similar purpose; that, namely, of facilitating the movements of the respective organs. Nor does the analogy cease here. In inflammation of the fibrous coat of the liver, the disease is generally propagated to the parenchymatous structure, in virtue of the processes which the membrane sends into the interior of the organ, and also of its close connexion with its outer surface, in the same manner as an inflammation of the pericardium may be propagated to the muscular substance of the heart along its serous investment.

Much difficulty is experienced, and much dexterity required, in dissecting this membrane from the part with which it lies in contact. On the concave surface of the liver, it is almost impossible to display it, but anteriorly, and especially towards the upper margin, it is very easy to raise it in the form of a strong, thick, dense, and consistent coat, inelastic, and of a light greyish color. In a peparation in the museum of the Cincinnati College, the membrane in question is nearly the twelfth of an inch in thickness. Superiorly it runs into the cellular tissue which is so abundantly found at the upper border of the liver, and which serves the important purpose of connecting the organ with the diaphragm. The mode of this connexion should never be lost sight of in our pathological investigations. By bearing it in mind, we shall be enabled to account for the manner in which disease may be propagated from one of these structures to the other, and how the matter of an abscess that is originally formed in the liver, may find its way into the lungs, and be finally expelled by coughing.

The discovery of this important tunic has been claimed by some of the German anatomists for Professor Sœmmering; by the French, for the celebrated Laennec; but the truth is, it was described more than a hundred years ago by Dr. Grieve, an English physician.*

5.—Nor can all the good be done by paying attention simply to the healthy and morbid appearances of the liver. To the practising physician, with a view of determining the diagnosis of some of the structural lesions of the organ, a knowledge of its *situation*, in respect to the neighboring parts, is of tantamount importance. Such information will be in the highest degree useful, also, as enabling him to comprehend how an enlarged liver may compress the stomach and interrupt its functions; how it may produce jaundice, by impeding the flow of bile; dropsy of the abdomen, by obstructing the return of the blood to the heart; how abscesses, originally

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* De Secretione Bilis, Edinburgh, 1731.

formed in the hepatic tissue, may burst into the surrounding organs.

The position of the liver is sometimes singularly altered, even although it may not have undergone any change in bulk. Thus, in hydro-thorax, it may be prominently felt, not only in the epigastric, where a part of it is naturally situated, but also in the umbilical, and left hypochondriac regions. On the other hand, in copious ascitic effusions, it may be forced so high up into the chest, as to encroach seriously upon the right lung, producing atrophy in that viscus, and terrible dyspnœa. Sometimes, again, the liver is pushed over into the left hypochondriac region, by an encysted tumor, or by enlargement of the right kidney. Now all these facts should be borne in mind by the physician, as they have an important relation to the diagnosis of abdominal diseases.

The *lesions* which will be treated of in the present essay, are, inflammation, suppuration, gangrene, softening, induration, hypertrophy and atrophy, tubercles, cancer, melanosis, hydatids, adipous degeneration, worms, cartilaginous and osseous concretions, apoplexy and laceration.

6.—*Inflammation* of the liver may involve either its proper substance or its investing membranes, and like the same disease in other organs of the body, it may be either acute or chronic. The acute form of the complaint is of rare occurrence in this country, but is sufficiently common in hot climates. In warm latitudes, there is always, as is well known, a high degree of nervous excitability of the chylopoietic viscera, and hence nothing is more usual than to see a large proportion of the maladies of those regions characterized by a predominance of inflammation of the stomach, liver, bowels or spleen. In our southern States almost all diseases assume a bilious type; but whether the liver labors under much inflammatory irritation, or is merely sympathetically affected, are points which still remain undetermined. The term *congestive*, which is so much in vogue with the physicians of those regions, seems to me to be often used unmeaningly, certainly without a proper regard to the fundamental principles of pathology. It is with them a sort of talisman, a mantle which covers a multitude of sins in the way of unsuccessful practice. That the internal organs, and especially the liver and spleen, are often inundated with blood in the intermittent and bilious fevers of those districts, may be readily supposed, but that this condition can last long without inflammation, is what very few will be willing to concede.

Nowhere, indeed, is there to be found a more striking instance of the operation of what Mr. John Hunter and his followers have denominated *continuous sympathy*, than in the viscera now under consideration. What takes place in the conjunctiva of the eye in inflammation of the Schneiderian membrane of the nose, in the fauces in inflammation of the larynx, or in the neck of the urinary

bladder in inflammation of the urethra, may be supposed to occur, precisely, in the inner coat of the gall-bladder, common and hepatic ducts, in acute duodenitis, gastritis, or enteritis, or in these different affections conjoined. Here disease is propagated directly from one part to another, because of the similarity of structure of the lining membrane; nor is it uncommon to find that the organ which is secondarily involved, is obliged to bear the brunt of the irritation. In this manner are produced, there is every reason to suppose, many of the so-called cases of congestive fever of the south; the disease, in the first instance, being probably nothing but acute inflammation of the gastro-duodenal mucous membrane, which, by extension, implicates the mucous membrane of the liver and gall-bladder, and thus creates that obstruction in the portal circle so much spoken of by writers and practitioners.

True it is, the question has not yet been settled by post-mortem examinations, which are alone competent to do it; nevertheless, let any one reflect, coolly and dispassionately, upon the subject, and all the difficulties which would seem, at first sight, to environ it, will speedily vanish. Who does not know that the whole liver is lined by a mucous surface, the area of which, could it be properly estimated, would, in all probability, be found to be fully as great as that of the stomach, certainly as great as that of the duodenum, with which it is directly continuous? Should any one say that this is an exaggerated and over-wrought picture, let him contemplate, even if it be but for a moment, the large volume of this organ and its myriads of granules, and then take into consideration the fact, that each of these bodies, small as it is, is provided with an excretory tube, lined by a mucous membrane, so fine that even the most powerful microscope is scarcely able to detect it. Let him, we say, but do this, and all skepticism will at once fly from his mind. He will no longer regard the liver simply in the light of a parenchymatous structure, but as a viscus composed essentially of mucous follicles, subject to the same diseases as the duodenum which adjoins it, and which sends into its interior one of its most important tissues. Thus do we perceive how disease may be propagated from one of these organs to another; how an irritation seated in the mucous membrane of the duodenum may affect that of the liver; how the functions of the latter may be impaired by the former; and, conversely, how an inflammation of the liver may be transferred to the duodenum, the stomach, and small intestine, and commit ravages the most serious and extensive.

Did time permit, illustrations the most convincing might be adduced, in corroboration of the mutual dependency of these organs; but as we have already digressed so far, I shall bring this part of my subject to a close, by expressing the hope, that the practitioners of the southern States, many of whom justly rank amongst the brightest ornaments of the American profession, may be induced

to bestow due attention on the anatomical characters of the various diseases which it is their province to treat. By diligent and carefully conducted necroscopic investigations, much light might be accumulated, that would be of the greatest value to the physician, as well as to the public at large.

7.—Inflammation of the liver appears occasionally to assume an epidemic type, affecting a considerable number of persons at the same time. An instance of this tendency occurred in 1828, in the city of Dublin, where, as we are informed by Professor Stokes, prior to this period, acute hepatitis was looked upon as a very rare disease; a case being seldom met with more than once in a year or two, in their largest hospitals. At the date here specified, however, every institution of the kind in the Irish metropolis had a considerable number of individuals afflicted with it, and of these not a few died.

8.—The anatomical characters of *acute hepatitis*, vary, as might be expected, according to the intensity of the irritative action, and the length of time it has been in operation. In general, the first perceptible effect is an increase of the vascularity of the parenchymatous structure, which becomes engorged in circumscribed spots, of a light red color. The part affected is somewhat tumid, abnormally dense, and bleeds freely on being incised; the hepatic canals are distended with a viscid, yellow, brownish fluid; and the acini are increased in size, and of a florid tint, though sometimes the reverse is the case, these bodies being much less distinct than natural.

In a more advanced stage, in addition to the vascularity, the hepatic structure becomes singularly softened, so that it may be reduced by the slightest pressure of the finger to a mere pultaceous mass. This state is analagous to the second stage of acute pneumonitis, and, like it, may be accompanied by the formation of pus, or a deposition of lymph upon the serous surface. In this respect, however, there is a wide difference between the liver and the lung, as we seldom meet with inflammation of the substance of the latter without pleuritis, while the reverse often obtains in acute hepatitis.

In its transition from the first to the second stage, the inflammation gives rise often to various shades of color. Thus, the parenchyma may be of a deep red, disposed in arborescent lines; or the vessels may encircle the acini in the form of wreaths, which freely anastomose with each other. When the disease is very intense, it is not unusual to see a number of small ecchymoses, produced by a rupture of some of the capillary arteries or veins; and instances frequently occur in which the affected part assumes a deep brownish, violet, or mottled aspect, the latter appearance being particularly liable to happen when the inflammation occurs in circumscribed spots. In such cases, the whole portal circle is

gorged with black blood, the biliary ducts are deeply injected, and their contents being of a sero-sanguinolent nature, have no longer that bitter taste and ropy feel, which characterize healthy bile. The mucous coat of the duodenum, also, is more or less phlogosed, and the minute branches of the hepatic artery and portal vein no longer admit injecting matter.

It is not often that the whole of the liver is involved in acute inflammation; most commonly it is limited to its surfaces, to its borders, or some of its deep-seated parts. In the latter case, the disease sometimes escapes the attention of the examiner, owing to the normal aspect of the exterior of the organ. Hence the necessity, in all our investigations, after having tied the large vessels, of removing the liver from the abdomen, and cutting it into thin slices. In some cases, especially such as follow surgical operations, the hepatic and portal veins are inflamed; and cases occasionally occur, in which these tubes are filled with purulent matter.

9.—When the inflammation is seated in the investing membranes, they exhibit the same appearances pretty much as the fibro-serous textures generally. Numerous vessels pervade them, passing up from the parenchymatous texture, and they are thicker and more opaque than in the healthy state. Lymph is also commonly deposited upon their outer surface, either in narrow bands, in small patches, or in considerable masses. The organ being thus glued to the neighboring parts, is often compressed, and much restrained in its movements. In some instances it is literally buried in lymph, and so strong are its adhesions, that much dissection is required before it can be removed from its situation. The disease, however, is seldom thus extensive; in the generality of cases, it is limited; and, if I may judge from my own observations, it has a peculiar predilection for the anterior segment of the membranes.

Does disease of the substance of the liver ever exist without involving its coverings, and, conversely, of its coverings without involving its substance? Upon this point, different opinions have been expressed by different writers; some answering affirmatively, others negatively. M. Bonnet, a recent French writer, and evidently a disciple of the Broussais school, maintains that inflammation of the hepatic parenchyma is almost always accompanied with inflammation of its peritonæal investment. The arguments, however, upon which he endeavors to sustain his proposition have but a very slender foundation; and as they are directly at variance with the testimony of some of the best authorities of the present day, no further notice need be taken of them here. The dissections of Annesley, of Andral, and of Louis, are sufficient to negative a thousand speculative notions; and if any reliance is to be placed upon them, it must be clear enough to every candid mind,

that the very reverse of the position assumed by M. Bonnet, is the true one. Not only do these pathologists assert that hepatic peritonitis is of extreme rarity, but they declare, upon the evidence of repeated personal observations, that the substance of the organ may be greatly altered, nay, even seriously disorganized, and yet its tunics be perfectly sound. "Even abscesses of the liver," says Mr. Annesley, "may proceed to the utmost extent, and ultimately break into the abdominal cavity, without having induced inflammation of the serous surface, where they point, and consequently without forming adhesions to the parts with which they are in immediate and close contact."

10.—Not much need be said here of the *symptoms* of acute hepatitis, as all the information that the student may desire upon this point can be obtained in the common treatises on the practice of medicine. The local phenomena, to which my remarks will be limited, may be referred principally to the pain, tenderness, and swelling in the region of the affected organ. When the disease is seated in the parenchymatous structure, the pain is of a dull, heavy, aching character; if in the investing membranes, it is sharp, lancinating, and often extremely severe. In either case, but especially in the latter, it is *constantly* increased by pressure, by inspiration, and by coughing. In some instances, the pain is felt in the right shoulder, along the spinal column, under the short ribs, in the loins, or in the epigastric region; but as these symptoms may arise from other affections, as, for example, inflammation of the top of the right lung, incipient phthisis, pleuritis, aneurism of the right subclavian, gastritis, colonitis, or disorder of the kidney, they are perfectly worthless as diagnostics. The patient lies commonly on the affected side, seldom on the back or on the left side; in which respect there is a striking difference between this disease and acute pleuritis, in which the person always lies on the sound side.

The tumefaction of the liver, which, next to the pain and tenderness, may be regarded as the most important symptom, is seldom considerable. When it is, the right hypochondriac region appears unnaturally full, and the margin of the organ can be felt beneath the edges of the false ribs. In some instances, the costal cartilages seem to be tilted out; but in such cases, the intercostal spaces retain, almost invariably, their depressed appearance; affording thus a striking contrast between hepatic and pulmonic disease, in the latter of which, when the cavity is distended, the intercostal spaces are either flat, or pushed beyond the level of the ribs.

Such then, are the three signs upon which our principal reliance is to be placed, when endeavoring to make up our diagnosis of acute hepatitis, *pain, tenderness on pressure, and swelling.* Add to these, the position which the patient assumes in bed, the derangement of the digestive organs, and the inflammatory state of

the system, and little or no difficulty can occur in coming to a correct decision.

11.—Acute inflammation sometimes terminates by resolution, but much oftener by the formation of matter, gangrene, or softening of the hepatic texture. Not unfrequently it passes into the chronic form, when it is liable to give rise to induration and other structural lesions. There is reason to believe that chronic hepatitis sometimes exists as a primitive affection, its invasion being very gradual, and unaccompanied by any severe symptoms. It is a much more frequent complaint in this country, than the acute form; yet it is not quite so common, perhaps, as the term "liver-disease," so generally used by the profession, would lead us to suppose. The anatomical characters of the disease, together with its diagnostic symptoms, so far as they are understood, may be collected from what we shall say concerning induration, hypertrophy, atrophy, and fatty degeneration of this organ.

12.—Although *suppuration* of the liver occasionally follows chronic inflammation, yet this effect is much more frequently witnessed as the result of the acute variety of the disease. The pus may be diffused, occur in small points, or be collected into one or more abscesses. The number of these purulent deposits is often quite great, the liver being literally burrowed by them; sometimes they communicate together by narrow fistulous passages, but in most cases they are separated by considerable intervals, or by thin partitions of hepatic substance. Occasionally the abscess is of extraordinary size, occupying nearly the whole of one lobe, or the greater part of the organ. In this way quarts of matter are sometimes accumulated. When the quantity of fluid is great, or if it be long detained even when small, it is apt to become encysted, the membrane by which it is enclosed, and which is susceptible of organization, varying in thickness from the fourth of a line to half an inch, and in consistence from the softness of gristle to the firmness of fibro-cartilage. In other cases, especially in such as run a very rapid course, the matter lies in immediate contact with the hepatic tissue, which is itself usually in a state of purulent infiltration, or very much softened and altered in color.

13.—The matter of a hepatic abscess usually partakes a good deal of the nature of true pus, being of a thick, white, cream-like appearance. Sometimes it is thin and sanious, sometimes thick and curdy, sometimes thin and brownish like chocolate, and sometimes of the color and consistence of a decoction of unburnt coffee. In the generality of cases, it is destitute of smell; but occasionally it is highly offensive, and irritating. Now and then the fluid contains flakes of blood of a dark grey color; and instances occur in which it looks like the washings of flesh.

13.—Suppuration of the liver does not always prove fatal. In many instances the matter has a tendency to discharge externally,

or to force its way into some one of the adjacent organs. The principal circumstances which appear to influence the point of communication are the seat of the abscess and the general volume of the hepatic tumor. In the abdomen, the opening usually takes place in the peritonæal sac, the colon, duodenum, the stomach or gall-bladder; when the abscess points externally, the matter may find its way out at the epigastric region, the right loin, or between the false ribs; and in either case it generally pursues a narrow fistulous route. It is not improbable that the pus formed in the substance of the liver, may sometimes pass into the bowels through the biliary ducts; and authors mention instances in which it found an outlet through the right kidney. When the abscess is seated at the upper border or on the convex surface of the liver, it not unfrequently breaks into the right side of the chest, where it either excites fatal inflammation, or erodes the pulmonary tissue, and is finally discharged through the bronchial tubes between the ribs, or even through the axilla. But the most extraordinary circumstance connected with this subject, is, that the fluid sometimes works its way into the pericardium. Of this an interesting case has been reported by Dr. Smith. The liver adhered closely to the upper part of the diaphragm, and was occupied by an enormous quantity of pus, about a quart of which had escaped into the pericardium. When the matter is discharged, the abscess sometimes heals, the process being analagous to that which is observed under like circumstances in the lungs and other organs.

Hepatic abscesses, on the whole, I have reason to believe, are very rare in this country, having never, in all my dissections, seen more than two cases. In Europe they are also extremely infrequent;* but they are sufficiently common in hot climates, and nowhere, perhaps, more so than in the East Indies.

In acute hepatitis, pus usually begins to be deposited in the course of six or eight days from the commencement of the attack; whereas in chronic cases months often elapse before the occurrence of this event. When suppuration is about to take place, there is a sudden aggravation of all the symptoms; the patient experiences frequent rigors, followed by profuse sweats; the pain in the side is of a throbbing, lancinating nature; and there is a peculiar sense of sinking, with anxiety and precordial oppression; the organ is commonly somewhat enlarged; and although there is no distinct fluctuation, especially if the matter be deep-seated, there is almost always a boggy, yielding sensation imparted to the finger when passed over the region of the tumor. This sensation, as might be anticipated, will be more distinct in proportion as the purulent fluid approaches the surface, and in this case, too, the

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* Andral's Path. Anatomy, vol. II, p. 373.

diagnosis will be much aided by percussion. In the natural state, the hepatic tissue is so dense as to afford a very dull sound when we strike the hypochondriac region; but in superficial abscesses, especially in such as do not contain too thick and consistent a pus, there is usually a considerable degree of resonance, which serves to define the limits between the healthy aud diseased parts. After all, however, the nature of the lesion is often extremely obscure, and it may be truly said that there are few occasions for finer diagnosis than in the affection in question.

Abscesses of the liver are liable to be produced by irritation of the lungs; and in many instances they supervene upon injuries of the head, large wounds, and surgical operations. The matter in these cases is supposed by some to be transmitted with the blood through the veins, from remote and diseased parts; but the more philosophical opinion, and that which meets my own decided approbation, ascribes its origin to inflammatory irritation of the substance of the liver, brought on by some inscrutable sympathetic action. That matter may be thus conveyed, no one will deny; but that it should create irritation in one organ in preference to another, is a point in pathology which cannot be very easily comprehended. If it has any truth at all, it forms merely an exception to the general rule. To admit that abscesses may be thus produced in any organ, is to admit that such an organ has an elective attraction for the purulent fluid that shall be flowing in the circulating mass; or, on the other hand, that its tissues are so close and peculiar, its capillaries so exceedingly fine, as to entangle the matter, and retain it, *vi et armis*, as it were, in its interior. To me the hypothesis appears not only objectionable, but too absurd almost for serious consideration.

14.—The termination of acute hepatitis by *gangrene* is so rare, that many writers have denied the possibility of its occurrence. Baillie never witnessed an instance of it,* and Annesley, although for many years an inter-tropical practitioner, and constantly in the habit of making examinations, declares that he has not been more successful.† In several thousand dissections made by Andral,‡ this lesion occurred only in a single case. From all these facts, then, it may be justly concluded that gangrene of the liver is of great rarity. Portal describes the mortified part as being extremely offensive, of a dark color, pervaded with sanious fluid, very soft and lacerable. In a case recently detailed by Dr. Stokes, of Dublin, the organ bore numerous marks of chronic disease, and in the left lobe was a cavity which was distinctly gangrenous, having

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* Morbid Anatomy, p. 136.

† Diseases of India, vol. 1, p. 435.

‡ Path. Anatomy, vol. 11.

in its centre a large mass of slough. The patient, an old drunkard, complained during the last few days of his life, of great pain and tenderness of the abdomen; and a short time before he expired he was seized with vomiting, and threw up a large quantity of fœtid matter.

15.—*Softening* of the liver is said to be a very common and destructive affection in warm latitudes; but it is very rare, I presume, in the more temperate regions of America and Europe. That this is the case I am disposed to believe from my own experience, and from the few cases that are reported of this disease in our periodicals. Softening of the liver presents itself under two distinct forms, differing from each other both in their color and consistence, but resulting probably from the same cause, namely, inflammatory irritation. In the more common variety, which I shall denominate *brownish softening*, the substance of the organ usually retains its normal color, but is broken down and friable, or has so far lost its cohesive properties that it readily yields to the force of the finger. In some instances the affected part is infiltrated with thin, bloody, sanious, or puriform matter, and is converted into a soft, brittle mass, not unlike a rotten pear. When put in water, an immense number of small granules appear, resembling the seeds of a bunch of dried grapes; they are of a yellowish, brownish or cinnamon color, and are attached to the large vessels by delicate vascular pedicles. In other cases, maceration produces an appearance like the washings of half-putrid flesh, the water becoming discolored, and the part exhibiting multitudes of shreds, the remains probably of vessels and fibrous filaments. This variety of mollescence is generally most remarkable on the convex surface of the liver, and occurs almost always in combination with diseases of the other viscera. especially of the stomach, spleen, and lungs. According to Mr. Annesley, it is frequently met with in India, in persons who are rapidly carried off by cholera, dysentery, and malignant fevers.

16.—The *second species* of softening has received the name of *black*, and, from its close resemblance to gangrene, is probably the result of a higher grade of inflammatory action, disorganizing the parenchymatous texture of the liver. It commonly invades a large extent of surface, sometimes indeed almost the whole organ, which it reduces to a dark pultaceous mass; having the consistence and aspect of grumous blood, or of a black, softened spleen. In some instances the affected part emits a remarkably fœtid odor; a circumstance which, together with its color, has given rise to the belief that the disease is analagous to, if not identical with, gangrene. The size of the liver is commonly altered; in most of the cases of which we have any account, it was reduced to one half or less of its normal volume; it is occasionally, I presume, enlarged, but this does not occur often.

Very often there are no symptoms which denote the existence of this fatal lesion during life. In a case recently communicated by Dr. C. A. Lee, of New York, in which the liver was completely disorganized, and converted into a black mass, like grumous blood, the patient, a colored man, of intemperate habits, forty years old, suffered no other inconvenience than diarrhœa and slight debility; he was not confined to his house, and suddenly expired while walking the street.* In another case, mentioned by Dr. Abercrombie,† the symptoms were jaundice, want of appetite, and nausea, followed towards the last by vomiting of black matter: there was no pain, no tenderness, no fulness in the region of the liver. From these and various other facts of a like character, it may be inferred, that the disease, commencing in the parenchymatous structure of the organ, progresses in a stealthy and insidious manner in its work of disorganization, without always particularly impairing the general health.

Neither Morgagni, nor Haller, nor Baillie seem to have ever met with this disease; and although numerous examples have been narrated by more recent writers, a good description of its anatomical characters is still a desideratum. The causes of this singular lesion are not well understood; but that it depends upon inflammation, either acute or chronic, is an opinion which seems to be borne out by an attentive examination of the various cases of it which are to be found upon record.

17.—There is a state of the liver, not at all unusual, the very reverse of that which has been now described. I need scarcely say that I refer to *induration.* In this disease, the substance of the organ is unnaturally hard, firm, and dense, exhibiting, when torn, a singularly granulated surface. The volume of the gland is sometimes unaltered, but in most cases it is much reduced, occasionally nearly one half. The color varies in different instances, being either a pale red, purple, nutmeg, brown, or lilac. Cruveilheir informs us that he has often seen induration of the liver accompanied with a green olive hue, but of this I have never witnessed an instance; nor am I aware that the same observation has been made by other pathologists. This change, which I am inclined to believe commonly results from chronic inflammation, is often characterized by great thickening of the fibrous structure, and by a remarkable atrophy of the hepatic granules. In some cases, indeed, the granules seem to be entirely removed, their place being occupied by a cellular tissue, very hard, and of a dull greyish color. The tunics of the liver usually participate in the condensation; the cellular substance accompanying the ramifications of the

* American Journal of the Medical Sciences, vol. 17, p. 60.

† Pathological and Practical Researches, p. 357.

hepatic artery and portal vein is frequently indurated; and many of the excretory ducts are permanently obliterated, whilst others are thickened, and of almost gristly consistence.

The induration is not always partial; I have frequently seen it pervade the entire organ, though in the majority of cases it occurs in patches, or is limited to particular parts. The right lobe and lobule of Spigelius are perhaps more generally implicated than any other portions. The disease is often attended with pain in the hypochondriac region; the countenance is wan and sallow; the conjunctiva is more or less yellow; and the patient is liable to be affected with ascites. The secretion of bile is frequently very sparingly performed, and the properties of this fluid are singularly altered. These symptoms, however, are far from being constant; nor can they be considered, when present, as diagnostic of hepatic induration.

18.—*Hypertrophy* of the liver is a frequent affection. This state is said occasionally to exist simply, but the assertion, I think, may well be doubted. In by far the greater number of cases, if indeed not always, it is combined with one or other of the states which we have just described, induration, and softening. The color, size, and form of the liver in this affection vary infinitely according to the period of its existence and the nature of the primary lesion. The most common tints are pale red, grey, brownish, dark green, mahogany, and nutmeg. Frequently these colors are more or less blended, so as to impart a variegated appearance to the parenchymatous structure.

The bulk of the organ is sometimes enormous. Cases have been recorded in which the human liver weighed from twenty to thirty pounds; and in animals, as the horse and ox, the weight not unfrequently exceeds one hundred pounds. In a case mentioned by Dr. Ruyer in the Encyclographie des Sciences Medicales for 1835, the organ weighed twenty-four pounds.* It was taken from a woman thirty-three years of age, was of a brownish slate color, soft and friable, and filled the whole abdominal cavity, forcing the diaphragm high up into the thorax, and pressing the bowels and other viscera firmly against the spinal column. In its substance were contained numerous whitish tumors, varying in size from that of a mustard seed to that of a hen's egg, some of which were occupied by purulent fluid.

The hypertrophy may be limited to a single lobe, or it may occur in all of them at the same time; most commonly, however, it attacks the right side. The shape of the liver, as has been

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*"Mr. Gooch gives a case in which, during dropsy, the liver acquired the monstrous weight of twenty eight pounds. Baldinger reports another instance in which it reached twenty pounds; and Bonetus a third, in which it weighed only two pounds less."

already hinted, may be variously affected; and the surface of the organ is remarkably rough, granulated, furrowed, notched, or mammillated.

Hypertrophy is most common in young strumous subjects, or in such whose constitution has been tainted by syphilis, and is usually connected with a low and protracted inflammatory state of the parenchymatous structure. The affection is rarely attended with much inconvenience, save what arises from the increased bulk of the organ. In the generality of instances, there are jaundice, dropsy of the abdomen, irritable stomach, and constipation of the bowels, with enlargement of the spleen, and a sense of weight in the right hypochondriac region.

19.—*Atrophy* of the liver is much less frequent than hypertrophy, and, like it, usually occurs in combination with induration or mollescence. I have seen it repeatedly affect the whole organ; but it is much more common to find it limited to one of its lobes; and what is rather paradoxical, the liver may not only be of its natural dimensions, but even enlarged. In speaking of induration, mention was made of the fact that the granular structure is sometimes entirely absorbed, and replaced by dense cellular substance. In this case, although there may be no diminution of bulk, there is yet an actual wasting of the hepatic tissue, the part affected being reduced, as it were, to its primordial frame-work. The color of an atrophied liver presents every variety of shade, from greyish white to almost entire black.

This state of the liver is often observed in persons who are in the constant habit of using ardent spirits. It is rarely seen before the middle term of life, and is most common in old age. The hepatic vessels are always much diminished in size, and the functions of the organ more or less impaired. Its cause is manifestly chronic inflammation, producing an effusion of lymph and a partial absorption of the granular tissue. This atrophy of the liver is frequently connected with ascites, either as cause or effect; as was pointed out several years ago by Dr. Andral, and more recently by Dr. Seymour, in his valuable work on the nature and treatment of dropsy.

20.—As intimately connected with the two changes last described, it will be proper here to notice that peculiar state of the liver to which some of the French and British pathologists have applied the epithets *granulated, mammillated* and *tuberculated.* The affection seems to have first attracted the attention of Laennec, who has described it under the name of *cirrhosis,* in reference to the tawny yellow color which it occasionally presents. It was soon after noticed by Dr. Baillie, of London; and since his time, it has been particularly investigated by Andral, Bouillaud, Cruveilheir, Hope, Carswell, and other anatomists. The lesion seems to consist essentially in a hypertrophy of the hepatic granules,

brought about by chronic irritation, acting in a slow and insidious manner. Their texture is dense and compact, and exhibits a great variety of tints, being sometimes of a deep brownish red, sometimes of a tawny yellow, like bees-wax, and not unfrequently of a pale cinnamon, pink, or lilac hue. When cut, they present a perfectly flat surface; and if further examined, are found to be invested by a dense cellulo-fibrous capsule, of a light greyish color, from which they can be easily removed by dissection, their principal bond of connexion being a small peduncle through which they receive their supply of blood-vessels, nerves, and absorbents. The size and shape of the granulations are variable. I have seen them of the magnitude of a common cherry; but usually they do not exceed a garden-pea, and often they are not larger than a mustard seed or a currant. Although mostly spherical, they are sometimes irregularly round, and even angular.

When these granules are very numerous, large, and of a variegated brownish color, they give the liver a peculiar *nutmeg-like* appearance. This state of the organ is said by Dr. Hope to be most prevalent in old dram-drinkers; but it may also result from repeated attacks of chronic irritation, or from long-continued congestion.* Hence obstruction of the vena cava or hepatic veins seldom exists long without producing enlargement of this kind.

In whatever form this species of hypertrophy occurs, the surface of the liver generally presents a singular mammillated aspect, as if it were raised into a multitude of spherical eminences; the peritoneal coat is thickened, opaque and wrinkled; and the volume of the organ is either diminished or augmented, seldom natural. In the former case, the hepatic texture is generally very dense, and almost destitute of moisture; in the latter, it is usually somewhat soft, more or less vascular, and impregnated with thin, bloody matter, which can be easily squeezed out with the fingers. In both varieties, but more especially in the first, the hepatic tissue is often of a yellow tinge; and the bile being retained in the rootlets of the hepatic duct, exudes pretty freely on making sections of it. If, in this state, a portion of liver be macerated for ten or twelve days in water, the little granules will assume the appearance of adipocire, and may be easily washed out of their cellulo-fibrous capsules, leaving them in a soft, flocculent condition.

21.—*Tubercles* are of very common occurrence in the liver, being either seated in its substance, or scattered over its surface; giving it, in the latter case, a very rough appearance. Lying in close contact with each other, or separated, as the case may be, by large intervals, these bodies are generally of a rounded shape, and consist of an opaque yellowish substance, in various degrees of

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*Principles of Morbid Anatomy, p. 103.

maturation. Their size, although sometimes not exceeding that of a mustard seed, is usually considerable, many of them being as big as a cherry or even a hazel nut. When the liver is thus tuberculated, it feels much harder than natural, and its vessels are compressed and sometimes greatly reduced in volume, though the organ itself rarely deviates much from the ordinary standard. In some cases, the tubercles bear a strong resemblance to those of the lungs; they have the same size, the same form, the same consistence, and, in all probability, the same origin; but are a little browner in their color. They are obviously connected, in most instances, with a scrofulous diathesis of the system, as is manifested by their frequent co-existence with pulmonary phthisis, and by their contents being usually of a curdy nature.

Besides this variety of tubercles, Baillie has described another, which he has designated by the phrase, large white tubercle of the liver. His division, however, has not been generally adopted by succeeding writers, and may justly be rejected on pathological grounds, it being now pretty well ascertained that the bodies in question are merely a species of carcinoma, presently to be described.

Tubercles of the liver produce marked symptoms only when they are numerous, or when they are associated with hypertrophy or structural lesion. Under opposite circumstances they seldom cause much local inconvenience, or impairment of the general health. They are seen occasionally in old subjects, but are most frequent by far in children. Cruveilheir asserts that he has never met with them in adults who died of pulmonary phthisis, although he has made numerous examinations.* Louis, however, has been more successful; for in one hundred and twenty three cases of consumption, he met with these tubercles twice in the liver.†

I have also, in a few cases, found them in association with tubercular phthisis, though more commonly without it. On the whole, I am induced to believe that this lesion of the liver is of rare occurrence in this country. In some of the inferior animals they are sufficiently common, and in none more so than in the sheep, in which they are observable at a very early age.

22.—The liver is extremely liable to be affected with *cancer;* more so, according to some writers, than any other organ in the whole body. That this may be the case in some countries is probable, but that it is not in the United States I am convinced, both from my own observations, and from those of the profession at large. Be this as it may, cancer is always a most formidable disease, perfectly uncontrollable by medicine, and consequently inva-

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* Dict. de Medicine et de Chirurg, t. viii. p. 329.

† Pathological Researches on Phthisis.

riably fatal. Two varieties of cancer are usually recognized by authors, namely, the carcinomatous, and the encephaloid.

23.—*Carcinoma* always occurs in distinct masses, the size, form, and consistence of which exhibit numerous diversities. The smallest are frequently not larger than a mustard seed, but in most cases their volume equals that of a chesnut, a walnut, or an orange. In a specimen in the museum of the Cincinnati College, the tumors, two in number, are about the size of a common apple; they are of a spherical form, hard, dense, and gristly, and situated in the very centre of the organ. The masses sometimes lie close together, and by their agglomeration form a tumor equal in size to a fœtal head; but such cases are rare, and I have never met with them. These heterologous structures seldom occur singly. In the majority of cases there are not less than six or eight, and instances have been known where there were as many as two or three hundred at the same time.

In their form these tumors are generally spherical; and those which project beyond the surface of the liver, for which they have a great predilection, have often a white greyish dimple in their centre, produced, it is supposed, by a condensation of the subserous cellular substance. The smallest, and those that are of recent formation, are of an opaque white appearance, and intimately connected with the surrounding tissues; whilst such as are old, and of great magnitude, are often of a brownish color, with various shades of grey and black, and can be easily lifted from their situation. Vessels frequently shoot into them, sometimes so large that they can be filled with injecting matter; nerves and absorbents, they also no doubt receive, but their existence has not yet been demonstrated by actual observation. To the touch they are hard and firm; and to the scalpel they offer the resistance of fibro-cartilage, the largest and densest yielding a slight creaking sound. The section generally displays a fibrous structure, the fibres radiating irregularly from the centre towards the circumference, like those of a turnip. In other cases, the tumor is lobulated and internally areolar, filaments of a greyish, brownish, or yellowish hue intersecting it in every possible direction. A juice may be obtained from them by pressure, and, in the cellular variety, a substance of the consistence and color of thin putty, paste, or concrete lard. Small masses of blood are sometimes diffused through them, but this occurrence is seldom witnessed, except in such as are old, or in a declining state.

The hepatic substance in the immediate neighborhood of these bodies, is, in most cases, perfectly sound. In others it is indurated, softened, infiltrated with different kinds of matter, or partially absorbed. Hypertrophy of the liver is sometimes observed; but a much more common occurrence is an extreme reduction of its weight and bulk. When the tumors are numerous, the larger

vessels are apt to be compressed, and, as a consequence, the organ is often exsanguine. From the same cause may result obstructions in the hepatic duct, with retention of the bile, and yellowish discoloration of the parenchymatous texture.

24.—*Encephaloid* disease of the liver is occasionally observed, though not so often as carcinoma, with which it probably has a similar origin. Like the preceding variety, this species of cancer occurs in various sized masses, of a greyish white color, soft, compressible, and elastic, with trifling vascularity. They offer very little resistance to the knife, and are composed of an areolar meshwork, occupied by a soft, pulpy, brain-like substance, intermixed with fibrinous concretions and dark-colored clots. The intersections are commonly of a lighter tissue, and, instead of being dense and thick, are eminently lax and delicate. Occasionally, though very rarely, the contents of these tumors are of the nature of hard jelly, constituting the *gelatiniform sarcoma* of Portal, Cruveilheir, and other pathological anatomists. The liver is sometimes much enlarged, and presents a mixed mass of disease, carcinomatous, encephaloid, melanotic, and tubercular, in various stages of maturation. The encephaloid matter is sometimes deposited in the portal and hepatic veins, as has been so ably represented by Carswell, in his Illustrations of Morbid Anatomy.

The symptoms of cancer of the liver are often exceedingly obscure, and frequently a long time elapses before the patient experiences much constitutional disturbance or local suffering. The disease in some instances appears to be latent, or manifests itself only a short time before death. The appetite is generally more or less impaired, the skin is sallow, the strength gradually declines, the body becomes emaciated, and there are frequent attacks of pain in the right hypochondriac region, with occasional nausea and vomiting. When the liver is much enlarged, and the cancerous tumors have attained considerable magnitude, the surface of the organ may impart a hard, nodulated, or lumpy feel to the hand applied over the abdomen, and this constitutes the only pathognomonic sign of which we have at present any knowledge.

25.—It is seldom that the liver is affected with *melanosis*. When it occurs here, it exhibits the same characters as in the other organs, and need not, therefore, be particularly described. I have never seen this disease in the human liver, but several times in that of the ox, in which it is by no means uncommon, especially in such as are raised in Ohio. In one specimen, the organ contained a great number of melanotic masses, arranged in the form of encysted tumors, varying in size from a small pea to a walnut. In man, the matter either assumes the tuberiform arrangement, or is diffused throughout the parenchymatous structure as an infiltration.

26.—*Hydatids* are of frequent occurrence in the liver, either occupying its substance, or studding its surfaces. Like tubercles, they may occur at any period of life, although they are witnessed most usually in adults, and persons who have been addicted to intemperance in eating and drinking. Commonly of a globular shape, they are often closely clustered together, and are almost always contained in a cyst, formed of a dense fibrous texture, of a white, opaque appearance. In an examination which I made about eighteen months ago, the hydatids looked like spherical bags, the largest of which was about the size of an onion, whilst the smallest was scarcely as large as a rifle-ball; their external tunic was dense, opaque, marked with numerous yellowish dots, and liberally supplied with vessels; their number did not exceed fifteen. The liver was much reduced in size, pale in its color, and its texture in many places so soft as to be unable to withstand the slightest pressure of the finger.

These parasitic beings are not peculiar to the human liver; they occur also in that of animals, especially in oxen, hogs, and sheep. In these quadrupeds, the organ is sometimes completely crowded with them, immense numbers being every where scattered through its substance. In the liver of a cow, Mr. Youatt found nearly three hundred of these singular animals, varying from the size of a sparrow's egg to that of a swan. Some of the cysts were filled with blood, some with lymph, and many of them were intersected by fibrous bands. The liver in which they occurred weighed one hundred and thirty-seven pounds, and measured from one lobe to the other more than a yard and a quarter; its centre was perfectly fibro-cartilaginous, without any trace of its original structure.* This case is an exceedingly interesting one, and I mention it here not only with a view of showing the great number of hydatids that are sometimes congregated together, but also for the purpose of pointing out the fact, that the liver may be sometimes almost totally disorganized, and still the animal not evince any serious indisposition. The disease in this instance had no doubt existed for a long period, yet the cow's health was but little impaired; enlargement of the belly, yellowness of the skin, and slight emaciation, being the only symptoms which she exhibited previously to being killed by the butchers. In the human subject there are no manifestations which mark the presence of these bodies, distinct from those of chronic hepatitis. The disease may simulate ascites; and not a few cases are recorded in which the patient was actually tapped for this complaint.†

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* The Management and Diseases of British Cattle, p. 460. Phila. 1836.

† See Medico-Chirurgical Review for March 1824. p. 930.

27.—Less distinctly organized are those *serous cysts* which are sometimes observed on the surface of the liver; constituting the disease which some writers have described under the name of encysted dropsy. The walls of these vesicles are generally transparent, smooth and polished, and supplied with numerous vessels, of the finest texture and most beautiful arrangement. Their contents, which are thin and limpid, like the water of ascites, are coagulable by heat, alcohol and acids. In the only case in which I have observed these tumors, they hung pendulous from the convex surface of the liver, were somewhat globular in their shape, and about the size of a walnut. Their most common size is that of a grape, but they may increase to a magnitude capable of holding many pints. Thus in a man aged thirty-two, Dr. Abercrombie found a cyst which contained eighteen pounds of fluid, and the walls of which were firm and dense, like thickened peritoneum. At the bottom of the sac were two coiled up cylindrical bodies, of a soft gelatinous consistence, which, when unrolled, had the appearance of false membranes, being about ten inches in diameter, and the eighth of an inch in thickness. The liver was not altered in structure, and all the other abdominal viscera were in a normal state. The patient had experienced much suffering, caused mainly, perhaps, by the encroachment of the immense tumor upon the diaphragm and surrounding organs.

28.—The liver has occasionally a peculiar *adipous* appearance, the fatty matter being either diffused through its parenchymatous structure, or confined to particular spots. The affected part is of a pale yellowish color, not unlike that of a pale autumnal leaf, its consistence is more or less diminished, it perceptibly greases the scalpel, is unctuous to the touch, and yields an oily principle by boiling. This, according to the recent experiments of Mr. Bird of London, is a soft brownish substance, very fusible, and possessing a peculiar and unpleasant odor. The quantity yielded by a pound of hepatic tissue is about five drachms and a half.

Frequently the surface of the liver presents small brownish spots, which, from the manner in which they are arranged, give it a very singularly mottled appearance. When a section is made, the interior is found to be of a much more uniform color, being of a pale yellow, deep orange, or light ochre. The hepatic tissue is generally diminished in specific gravity, though this occurrence is by no means constant. In two specimens examined by Mr. Bird, the weight was only 1,027, whereas in the same amount of healthy liver it was 1,062.

This fatty degeneration occurs almost exclusively in phthisical subjects. Louis found it in forty-four persons out of the one hundred and twenty-three who died of this disease under his care in the Charity Hospital at Paris. This writer even goes so far as to contend that this state of the liver is never seen, except in con-

nexion with tubercles of the lungs or of some other organs. That this, however, is not necessarily, although it may be generally, the case, is abundantly disproved by the observations of other pathologists.

Various hypotheses have been offered with a view of accounting for this curious state of the liver; but the only explanation which seems to me to be at all tenable, is that which ascribes it to chronic inflammation, with venous engorgement, giving rise to an augmentation of the secretion of fatty matter, which, according to the well known experiments of Braconnet and Vauquelin, is naturally contained in the organ. This opinion derives support and illustration from what is observed in the inferior animals. In the goose and duck, an almost complete adipous transformation of the liver may be induced in the course of a few weeks, by subjecting them to inactivity, withholding the light, and cramming their stomachs with a paste made of barley-meal, mutton suet and coarse sugar, mixed with milk. This mode of fattening fowls has been pursued for many years in the neighborhood of London, and it has been found that if the repletion be kept up longer than a fortnight, so much structural lesion will be induced as to kill them, or render the meat unfit for the table, the liver being converted into a soft, red, oily mass. In the human subject, this change seems to take place very rapidly in some instances, as in the course of five or six weeks; and the organ is not unfrequently double the usual weight and bulk. Louis has ascertained that it is more common in young than in old persons, and in females than in men, in the ratio nearly of four to one.

The bile seems to be considerably altered in this affection, both in its chemical and physical properties. Dr. Addison of London, who has published an able essay upon the subject in a late number of Guy's Hospital Reports, states, that this fluid is frequently of a dirty brown color, and contains an infinite number of carbonaceous granules. After the addition of almost any of the acids, a most intolerable odor is evolved. The urine, too, is usually a good deal altered, being of very low specific gravity, quite neutral, and holding in suspension numerous flakes of mucus.

There are no signs, either general or local, which characterize this singular state of the liver. How far the symptom, recently pointed out by Dr. Addison, forms an exception to this remark, is a question which, for the present, must remain undecided. The symptom to which I allude, consists in a peculiar alteration of the color and texture of the integuments, most conspicuous on the face and back of the hands. These parts exhibit a singularly bloodless, almost semi-transparent, and waxy appearance, which by degrees becomes observable over the whole body. Sometimes the skin has a fine, polished, ivory look. To the touch, it is remarkably smooth, loose, flabby, and almost as soft as satin, apparently from

the natural asperities being obliterated. In several instances, in which this peculiar condition of the integuments was present, has Dr. Addison confidently and correctly predicted the existence of the fatty degeneration of the liver. The subject is certainly of great interest, and will no doubt receive the serious attention of the profession.

29.—The *liver-fluke, the distoma hepaticum* of helmintholo-gists, although said to have been several times found in the human subject, is much more common in the inferior animals, as the sheep, horse, stag and ox. It is also found in the gall-bladder, and Pallas mentions that he once detected it in the hepatic duct of a young female. Somewhat lanceolated in shape, it is of a yellow-ish color, obtuse at either extremity, and scarcely a fourth of an inch long, by one line in breadth. It has two openings, one in front, which is directed obliquely inwards, and another behind and inferiorly, which is slightly prominent, and answers to the anus; the neck is rounded, and of a light brownish hue; and the belly is marked by spots of an opaque dingy white. The insect is thought to have a distinct genital apparatus, with a vascular, and probably also a nervous system. In animals it is often an inch long, by nearly half an inch broad.

30.—*Cartilaginous* depositions are sufficiently rare in this organ; most frequently they are confined to the investing mem-branes, occurring in small patches, of a soft texture and greyish color. Dr. Roberts, of Paris, relates a case in which the whole of both tunics was converted into one mass of cartilage, in some places half an inch thick. In the midst of this substance were several scales of bone; one of them of the size of a half-crown piece.

31.—The depositions are sometimes entirely *osseous.* Dr. Venables met with a case in which the concretion, consisting almost entirely of phosphoric acid and lime, was about the size of the patella, with very much the same shape. It was embedded in the parenchymatous structure, and resembled common bone.* In other cases the earthy matter is soft, gristly, of a brownish white color, and enclosed in a dense, firm, fibro-cartilaginous cyst.

Very recently I have met with very small osseous concretions in several livers which were otherwise perfectly healthy. In one of the cases there were altogether about fifteen, varying in volume from a mustard seed to a currant. They were hard, somewhat gritty, of a yellowish hue, and most of them distinctly en-cysted, the capsule, which was of a greyish color, and fibro-carti-laginous firmness, being from the sixth to the fourth of a line in thickness, and closely adherent to the surrounding tissues. In

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* London Cyclop. Pract. Med. vol. iv. p. 611.

another case, the concretions were only five or six in number, the largest of which was about the magnitude of a common pea. They were also encysted, but of a light brownish color, and of great hardness. How these little bodies originate, cannot be very easily determined. In one of the cases now referred to, it seemed to me that they were nothing but tubercles in a state of osseous degeneration; a supposition which derives strength from the fact that several of them, evidently less advanced than the rest, contained a minute quantity of curdy, friable matter. The individual, moreover, was of a decidedly scrofulous habit, and numerous tubercles were detected in different organs.

32.—Blood sometimes escapes into the substance of the liver, constituting the disease to which some of the French writers have applied the name of *hepatic apoplexy*. It generally proceeds from one or more ruptured vessels distributed through the parenchymatous texture, and occurs in small spots, varying in density and color according to the length of time they have existed, being always softer and darker the more recent they are. The disease, I presume, is extremely rare, as very few pathologists make mention of it. In my own dissections I have never met with an instance of it; nor am I aware that any of my friends have been more successful. No symptoms have yet been pointed out as indicative of hepatic apoplexy; nor is it reasonable to suppose that the organ would suffer much inconvenience unless the effusion should be copious.

33.—The liver is very easily *ruptured*, in consequence of external violence; and when this happens, large quantities of blood are liable to escape into the abdominal cavity. The accident is always fatal, the patient seldom surviving more than a few hours. To this statement, however, a remarkable exception is to be found in a case, the particulars of which have been recently given by Dr. Fazely of the Island of Trinidad. The individual, a man fifty years of age, survived the effects of the injury eight years, and finally died from a complication of disease. On examination, it was found that the right lobe of the liver had been ruptured throughout its whole length and substance, from the anterior to the posterior part, and that the lacerated edges had perfectly re-united through the medium of a broad, thick cicatrix, of a hard cartilaginous texture. In the interior of this cicatrix, at the depth of half an inch, a considerable cavity was seen, which communicated with the hepatic substance, and contained about fifty biliary concretions. The surface of the liver, it should be remarked, adhered extensively to the walls of the abdomen. The gall-bladder was empty and flaccid, and the alimentary tube perfectly sound.

That such accidents are not so fatal as has been generally imagined by the profession, may be inferred from some experiments performed by Professor Monro of Edinburgh. He opened

the abdomen of a living rabbit, and cut off one of the lobes of the liver. The divided vessels bled very profusely; but by pressure, the hemorrhage entirely ceased in the course of three or four minutes. After the wound was sewed up, the animal appeared uneasy, but only for a short time, when it gradually recovered its spirits, and took food as before. During the five weeks that it was kept and closely watched by the experimenter, it was in perfect health, the digestion going on well, and the alvine evacuations being of the usual color, quantity, and consistence.

In another experiment, also performed upon a rabbit, the results were precisely similar. The animal lived upwards of twelve weeks, when it was killed. On examination, the cut surface of the liver was found firmly glued to the walls of the abdomen, by means of lymph.* The results of these experiments are extremely interesting, as showing how large a portion of an organ, so important to life, may be ablated or destroyed, and yet the animal perfectly recover.

With these remarks we close the present paper. Imperfectly as it has been treated, I yet hope that it will not be entirely without interest to the readers of this journal, for whose benefit it has been constructed. Nor shall I consider my time and labor as misspent, if what has been said shall have a tendency to arouse the attention of Western and Southern practitioners to the subject of the morbid anatomy of an organ, of which so much is talked but so little understood in this country. In the next number of the journal, I propose to take up the consideration of the various lesions of the gall-bladder and biliary ducts, with the pathology of jaundice.

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* Elements of Anatomy, vol. i. p. 567. Edinb. 1831.

REVIEWS

AND

BIBLIOGRAPHICAL NOTICES.

Art. IV.—Blood-Letting.

An account of the curative effects of the abstraction of blood; with the rules for employing both local and general Blood-letting in the treatment of diseases. By James Wardrop, M. D., Surgeon to the late King, etc. etc. etc. London, 1835.

Such is the title of a small work, of 148 pages, which Dr. Wardrop has published on one of our most important therapeutical agents. It is a remarkable fact, that although blood-letting commands such an important station in our list of curative resources, yet that in neither of the works of Dr. Chapman or Dr. Eberle on Materia Medica and Therapeutics, is it at all distinctly treated. Among American physicians there is no one remedy of greater importance in the treatment of diseases than the lancet. In every part of our wide-spread country it is often resorted to—and no adequate substitute can be found for its vast remedial powers in many of the severe morbid affections which we are called day after day to treat.

We do not propose to enter upon any critical review of this work, but will endeavor to present its most striking facts and arguments.

Our author commences by General Observations on the Blood. Under this head the circulation, functions, living principle, morbid changes, quantity, sensible qualities, temperature, and coagulation of the blood are spoken of. There is nothing of interest

under these respective heads, except under that of coagulation. The following are the remarks of Dr. W. on the coagulation of the blood.

"Coagulation is one of the most important properties of the blood. Whenever blood is removed from its proper vessels, a process of coagulation takes place, and this coagulation happens sooner or later, according to particular circumstances.

"Healthy blood coagulates in about three minutes and a half; the coagulation is usually completed in seven minutes, and in twelve minutes the mass becomes firm.

"Blood coagulates in the ratio of its specific gravity, the lighter the blood the more slowly does it coagulate; and coagulation takes place more or less quickly, according as the orifice from which it flows be small or large, or the stream fast or slow.

"Coagulation too is rendered slower by cold. We observe it take place quickly when the blood is received into a basin or flat vessel, and it coagulates soonest if the vessel be metallic. The rapidity of the coagulation also depends on whether it be the first or last portions which are abstracted, either from an artery or a vein.

"Blood, which is kept at rest, coagulates more slowly than when it is stirred or agitated. It coagulates most quickly when drawn through a small orifice, and allowed to trickle down the arm. Strong action of the arterial system appears also to dispose the blood to coagulate slowly, but, when the vascular action is diminished, as in fainting, coagulation takes place more quickly; and hence the assistance nature derives from syncope, in plugging up the orifice of a bleeding vessel.

"The power of the blood to coagulate is essential for the performance of many important functions in the animal economy, whether in a state of health or disease

"1st. It is this quality of the blood which arrests the bleeding from a wounded vessel.

2nd. Coagulation is the means of limiting spontaneous hemorrhages, by plugging up the open mouths of the vessels from which the blood is poured out.

"3rd. It serves to agglutinate the divided edges of wounded skin.

"4th. It is important in the restoration of a lost part by forming a covering to prevent the contact of the external air with the newly-exposed surface.

"5th. It forms a parenchyma or matrix for the passage of new vessels, in the restoration and regeneration of parts that have been destroyed, as in the process of granulation.

"6th. It is the power of coagulation which nature employs to prevent the bursting of an aneurysmal swelling.

"7th. And lastly, it is equally useful in plugging up the canals of diseased veins, and in agglutinating its wounds.

"As regards *spontaneous hemorrhage*, it has been already observed, that this coagulating power of the blood answers a very important purpose. There are many diseases wherein an effort is made by nature to relieve the general system, or a particular organ, of a superabundant quantity of blood, and little or no disposition is made to arrest its progress, until considerable debility or syncope supervenes, which has the effect of promoting the necessary coagulation. And, moreover, when blood is lost by a wound, the diminution in the quantity of the blood, by retarding the force of circulation, creates a power in that blood to coagulate more speedily, and thus arrests the hemorrhage. Hence is derived the useful practical lesson of encouraging a state of syncope, in order to assist in stopping hemorrhage. Indeed, when syncope does take place, during operations, we ought to watch the state of the wound after the syncope goes off before venturing to close it, for the vessels often begin to bleed, when, in order to prevent secondary hemorrhage, they ought to be secured by ligatures.

"The importance of this property of coagulation in the blood, is also exemplified in repairing injured or lost parts of the body. When the skin, for instance, is divided, the cut edges adhere, and this adhesion is effected by a quantity of coagulated blood being interposed between the lips of the wound. Here the coagulated

blood seems to act as a mere bond of union, and I may observe, as a general rule, that whenever we are able to keep the lips of a wound together by the adhesive properties of the blood alone, blood is the most preferable, and the best plaster.

"HUNTER believed that the coagulum thus formed between the edges of a wound possessed within itself a power of generating vessels, and thus became organised; but whether under the ordinary circumstances of reparation, new vessels are formed in the midst of the coagulum, or whether they shoot into the coagulum from the adjacent surfaces, and are continuations of those which have been divided, it is certain that vessels meet together and anastomose freely in the coagulum, which, along with the nerves that are also supplied, ultimately constitute a complete organization of what originally was a mass of coagulated blood.

The power of the blood to coagulate for the purpose of the restoration of parts, is exemplified when a portion of the skin is accidentally removed. In such a case, coagulated blood is first deposited on the wounded surface, and coagulable lymph is then effused by the arteries between the coagulum and the wounded surface, for the purpose of forming a matrix for granulations; the growth of which granulations and their subsequent cicatrization repairing the lost part.

The power of coagulation in the blood is also employed by nature for the cure of *aneurysm*—one mode at least of spontaneous cure entirely depending on this process. When an aneuryism is formed, the blood which fills the dilated part of the vessel, or the proper aneurysmal tumour, does not circulate either in the same direction or with the same velocity as in the natural condition of the vessel. The consequence is, that a process of coagulation of the blood in the tumour commences, and the extent of this process varies according to the form, size, and position of the aneurysm. In some cases the tumour, however small, is found completely filled with a mass of coagulum, whilst in other cases the parietes of the artery have derived comparatively little additional thickness.

The coagulum, however it may be formed in aneurysmal tumours, is not produced quickly, and consists in the deposition of one lamina of fibrin upon another, which fortifies the parietes of the tumour, and prevents its bursting. In cases where the aneurismal cavity is completely filled, an absolute cure of the disease is thus accomplished, the diseased portion of the vessel being rendered no longer liable to rupture. There is, however, a difference to be observed between the coagulum of an aneurysm and a common clot of blood, though the distinction has not been clearly pointed out by pathologists.

"This quality of coagulation in the blood, which, as I have endeavored to show, is so powerful an agent in arresting hemorrhage as well as in accomplishing other restorative processes, has in some persons been found wanting, and hence bleedings even from very small vessels have not been capable of being stopped, and the hemorrhage has in some instances even proved fatal. As few such cases are recorded in medical works, it may be expedient on this occasion to bring together all the materials I have been able to collect on this interesting subject, and mention those examples of this peculiarity of the blood which have come more immediately within my own knowledge.

A gentleman found on several occasions great difficulty, and it often required many hours, before he could stop the bleeding occasioned even by superficial scratches, such as he sometimes met with in shaving. At length he accidentally received a slight wound on one of his fingers, and every effort to arrest the hemorrage failing, he expired.

"I attended a patient where the introduction of a common seton needle in the side was followed by a fatal hemorrhage. The gentleman who had an enlarged spleen, was advised to have a seton introduced, and the operation was performed in the usual manner by SIR ASTLEY COOPER. Alarmed by the quantity of blood oozing from the wound, I was sent for to see the patient in the evening of the same day. On withdrawing the cord, pressure carefully applied with graduated compresses did not avail, and the hemorrhage being so profuse as to make it appear probable that some vessel of considerable size had been wounded, I thovght it expedient to divide that portion of integument between the two perforations made by the seton needle. Having done this, I found that the blood issued from numerous orifices, and I secured no less than nine vessels with ligatures. Blood continued, however, to ooze from numberless small orifices over the whole surface of the

wound, which every mode of treatment usually resorted to failed in arresting, and the patient died in a few days.

"An interesting case which I conceive to have been of the same description, is recorded by Mr. BLAGDEN in the eighth volume of the Transactions of the Medical and Surgical Society. A young man, at different periods of his life, experienced great difficulty in stopping the bleeding from very slight wounds. At length he had a tooth extracted, which was followed by a violent hemorrhage, that neither stypics, pressure, the actual cautery, nor a ligature on the carotid artery, could control, and he died in a few weeks after this injudicious operation.

"Mr. WILSON mentions a case where a child died from the bleeding of a small bite on the tongue. "I once had an opportunity of inspecting the body of a young person in whom, during life, a very small degree of pressure on any part of the skin, produced the appearance called black and blue to that degree, that the nurse in dressing him, although a very careful woman, frequently left the impression of her fingers on different parts of his body. I have frequently seen the child with bruises of a livid color, arising from falls, or even pressing against any thing with the slightest force; if a pin happened to scratch him, great difficulty occurred in stopping the bleeding, and the application of a single leech was productive of so much danger from the continuance of the hemorrhage, that the child's life was nearly lost. The complexion of the child was fair, and the appearance delicate, but not unhealthy; the pulse was full, but never hard, and the functions of the viscera generally seemed to go on as in other children. When between three and four years of age, the child bit its tongue; there was in impression of the teeth both on the upper and lower surface, but not very deep; the bleeding from the wounds continued for some hours, and having resisted all attempts to stop it, I was requested to see the child. I tried compression and every kind of styptic, which produced a temporary, but no permanent effect, so that although the child lived five days, and during that period I saw it several times in the day, and frequently remained an hour or two with it, though I never failed in producing a temporary stoppage of the bleeding, it was renewed almost as soon as I left the house. I included the whole of the bleeding surface in a ligature, which for a short time stopped hemorrhage, but ulceration very soon took place, and a fresh bleeding occurred; to use the needle was now impossible, as the least puncture produced a bleeding almost as violent as that from the wound. I destroyed the surface by caustic, but the eschar was soon thrown off, and the bleeding renewed; the child became very weak, and, as the bleeding occasionally occurred during sleep, was watched over very carefully; but on one occasion, when upon the supposition that he was asleep, he had not been looked at by the nurse for half an hour, she found that a very slight bleeding, not exceeding a teaspoonful, had taken place, and that the child was dead."

"A curious case came within my own observation, where this deficiency in the coagulating power of the blood appeared to be *hereditary*. A family of which there were several branches, all found a particular difficulty in stopping the hemorrhage from any very slight wound which they might have accidentally received, and one of the brothers who had a common operation for fistula performed, died of a bleeding which was occasioned by the incision made in the operation.

"But by far the most interesting case which has come within my knowledge, and where there was not only a want of power in the blood to coagulate, but where that peculiar state of the sanguineous fluid existed in many branches of the same family, occurred in the practice of Mr. WARD, surgeon, at Ewell, and I shall conclude this part of the subject by relating the circumstances as they were communicated by him to me:—

"'The particular state of the boy's constitution was manifested at two months old, when his arm was unusually bruised by a slight blow; and soon after this accident, there was much difficulty in restraining the hemorrhage occasioned by a superficial wound of the lip, and since then, whenever he has had a slight scratch. When he first came under my care, he had received a superficial wound in the palm of the hand a few days previous, and appeared much exhausted from hemorrhage. I attempted to restrain it by pressure, oil of turpentine,—caustic,—and by strong acetic acid; and after giving him some aperient medicine, he took the diluted sulphuric acid in large doses, and astringents. The case becoming very desperate, for the hemorrhage continued unabated for two days after I first saw

him, I now ordered a dose of superacetate of lead with opium every three hours, when the hemorrhage soon abated, but whether from the effect of the medicine or not I was unable to determine. It appeared to me to have had a considerable influence. I formed some idea of the extent of the hemorrhage by having the arm placed above a plate, when twelve ounces of blood was collected in as many hours. This blood was not at all coagulated, and I could only observe clots when the blood was suffered to collect in folded linen, and then in very small quantities. The boy, after this attack, was completely exsanguined, suffered excessively with all the symptoms of protracted hemorrhage, and it was several months before he recovered.

"'Since that time he has been under my care for a wound on the head, the hemorrhage from which was restrained with less difficulty, because pressure could be more effectually used, and at the same time I applied the lunar caustic freely. The bandage remained for more than a week, when an ulcer, having a very offensive smell, of about the size of a shilling, remained. This went through the natural process of granulation, and certainly healed more rapidly than under common circumstances. At this time the boy is well, and is in the eighth year of his age.

"'The circumstances connected with this boy's family are equally remarkable. His mother has a numerous offspring, and a brother, who is twenty-two years old, is afflicted in a similar way, and is also an almost constant sufferer with rheumatic gout. He had five uncles and two aunts; all his uncles had the same hemorrhage tendency, three died from a division of the frænum linguæ, one from the extraction of a tooth, and the other had the same disease, but died from some other cause!

"'The aunts had not that tendency in their persons: the one had three boys, two of whom are thus afflicted; the other has two boys and two girls: both boys are afflicted in the same way.

"'From the above account, there can be no doubt of the *hereditary nature* of the disease; and it is a singular circumstance, that it is confined in this family to the male branches.'

"The treatment of such cases becomes an object of interesting inquiry, and a successful analysis of the blood might perhaps teach us how to supply the deficiency in its power of coagulation. Those substances, which dispose the blood to coagulate, seem to have more effect in restraining the bleeding for a time than those which excite the artery itself to contract. Hence styptic applications have been employed; and these act by producing a chemical change in the blood with which they are mixed, and thereby form a cake or cement, to supply the place of a coagulum.

"Sir C. Scudamore recommends with much confidence, the application of a saturated solution of the sulphate of alum for arresting hemorrhage. This salt, by producing an immediate coagulation of the blood, forms a coagulum at the mouth of a bleeding vessel, and thus accomplishes the first step of that process by which bleeding is arrested. The alum solution should be used warm, in which state it favors the coagulation, and this warm application is not to be considered inconsistent with the application of cold to the parts in the immediate vicinity of the bleeding vessels, the effects of which in diminishing the action of the vascular system is well established. The alum solution is to be applied either by a compress wet with it, moderately pressed on the bleeding part, or it may be injected into a bleeding cavity, such as the nose, uterus, bladder, or rectum.

"Besides the causes to which I have now alluded, wherein a want of the power of coagulation in the blood seems to depend on a peculiarity of constitution, and in some instances on a hereditary taint, there are other causes which produce deficiencies in the power of the blood to coagulate.

"In many diseases, where the solids are verging towards putrefaction, the disposition of the blood to form a firm coagulum is much lessened, as in typhus fever and scurvy. In animals, too, that die suddenly from over exertion, the blood does not coagulate. Most persons are aware of the difference in the blood of a hare which has been shot, and of one which has been run down by hounds; and in persons who are suddenly killed by lightning, or during violent fits of passion, or criminals by hanging, the blood does not coagulate. Alkalies, and common salt, entirely prevent the coagulation of the blood, whilst mineral acids promote the process. Is it on this principle that the internal use of mineral acids is so bene-

cial in hemorrhages? Can this effect of sea salt on the blood, account for the state of the sanguineous fluid in persons affected with sea scurvy? it being well known that this complaint is the effect of eating salt provisions, and that the blood in such persons is unusually thin. We know that this complaint is also cured by the exhibition of acids. It is a characteristic feature in the menstrual flux, that the discharge does not coagulate like common blood, nor does it ever become putrid, until after artificial evacuation, as is exemplified in cases of imperforated hymen, where its exit had been often prevented even to an advanced period of life.

"The consistence of the blood is another quality which merits attention. Blood, in inflammatory cases, is not only longer in coagulating, but it is also much thinner than natural, which thinness has been proved by Hewson to depend on the greater attenuation of the coagulable lymph or fibrin. The whole mass of inflamed blood, before coagulation, is actually thinner than the serum of the same blood after coagulation has taken place, and the crassamentum or clot separated from it. Hence the disposition of arteries in an inflamed part to throw out coagulable lymph, may, more or less, depend on this change in the blood.

"Whilst blood is flowing into a basin, our eye enables us to form some notion of its consistence, but this is best ascertained by the time it requires to coagulate. A firm texture of blood has been generally considered as a mark of strong action in the arteries, and as pointing out the propriety of abstracting it, and, on the other hand, when its texture is very loose, the utility of repeating venesection has been considered questionable.

"Soon after coagulation, blood separates into two substances, the crassamentum and the serum.

"The serum, or watery part, exudes through the pores of the coagulum, whilst the crassamentum contracts, leaving the sides of the vessel containing it, and preserving its form.

"The proportions of the serum and crassamentum are various. In healthy blood they are nearly equal quantities; whereas, in very stout and laborious people, and also during some inflammatory diseases, the crassamentum is in the larger proportion.

"The serum is a fluid of a pale straw colour, has a slight saline taste, is somewhat viscid, rather heavier than water, and mixes readily with it. When exposed to a moderate heat, it coagulates into a light straw colored glutinous mass, and the same effect is rapidly produced by its sudden admixture with an equal quantity of boiling water.

"The part of the serum which is thus coagulated, either by the application of heat, or an admixture of acids, possesses most of the chemical properties of the white of egg, and has been termed the *albumen*.

"When serum is coagulated by heat, there oozes from the mass a small quantity of a viscid substance, which has been termed the *serosity*, and is a mucous fluid.

"The serum has been found of a white color, like cream, and to contain globules, which peculiar appearance has been attributed to an admixture of the chyle with the blood. This appearance, however, has usually been met with in the serum of persons whose appetite has been impaired, and who have been subject to sickness and vomiting. Hewson supposed this change of color to arise from absorbed fat, and says that all the persons in whom he found the serum white were plethoric, and were relieved by blood-letting. If a person be bled soon after dinner, the serum appears milky.

"The serum is in greater quantity in what has been called *sizy* than it is in healthy blood, and the greater quantity which makes its appearance when you examine a vessel containing such blood, arises from the strong contraction of the fibrin forcing all the serum out of the clot. In such blood, the coagulum is remarkable in its shape; in place of having a smooth, plane surface, its edges are inverted.

"When serum collects in a preternatural quantity, either in the cellular texture, or in any of the serous cavities, as those of the pleura, pericardium, or peritoneum, it produces the disease called *dropsy*.

"The red globules were supposed by Hunter to be an indication of physical strength; the stronger an animal was, the more red globules did its blood contain. Wild animals have a greater proportion of red globules in their blood than those which have been domesticated, and there is a curious difference in the colour of

certain muscles in the same animal, depending, no doubt, on the colour of the blood; this is particularly remarkable in the pectoral muscles of the black-cock, one set being much paler than the others.

The colour of the globules themselves varies in different vessels of the body, and and there is a difference in the shade or intensity of the colour of the blood from the quantity of globules which it contains. There are also diversities of shade of the red in the different systems of vessels. It is of a bright scarlet colour in the systemic arteries, and purple in the veins, and it is changed from the scarlet to the purple in passing from the ramifications of the aorta into the veins Hence the variety in the shades of red, in different inflammations, arising from the differences in the proportion of the number of arteries and veins of the inflamed part.

When kept at rest, the blood in the arteries becomes of a dark colour, and in extravasations of arterial blood into cavities, if not exposed to the atmospheric air, it also assumes a dark colour.

Although blood is usually dark in the veins, it is not so under all circumstances. For when a large orifice has been made in a cutaneous vein, the blood which immediately follows the withdrawal of the lancet is black, and this is sometimes succeeded by blood of a florid scarlet colour.

"The blood is also found of a florid colour in the veins of a part affected with common inflammation; and if the bandage used in phlebotomy has been kept some time on the arm, the blood which first flows from the orifice is very dark.

"In diseases obstructing respiration, the blood is likewise of a very dark colour. This is the case during a fit of asthma. In diseases where the respiration is quick, as in phthisis, the blood is usually florid, and indeed, in inflammatory diseases generally, the blood is more than naturally florid.

"The red globules are not distributed, like other parts of the blood, throughout the whole frame, as appears from the want of the red colour in certain parts of the body. In some diseases their number is increased, at least in particular parts, and this may alone depend on the change in the size of the containing vessels. When much blood has been taken from the body, the red globules are not so soon renewed as in other parts, hence the paleness which often exists for a long time after copious depletions.

"Mr. Brande found, that the menstrual flux in its component parts resembles a very concentrated solution of colouring matter in a diluted serum.

"Changes are also observed in the colour of the external or cutaneous blood-vessels in many diseases, which informs us that changes must have taken place in the sanguineous fluid. Observe the varieties of red in the colour of the lips and cheeks, in the eyes, and in the skin covering diseased parts. Observe the various shades of redness in the skin around different ulcers—changes which alone, in many instances, tell us the nature of the disease!

"Richerand amputated the arm of a very old man, who for thirty years had an ulcer, which was connected with a varicose state of the veins of the limb; and the health of this individual was much impaired. During the operation it was observed, that "the blood as it flowed from the arteries was much less red than that which was lost by a young man whose leg was removed on the same day. In fact the venous blood appeared as if dissolved, of a violet colour, or somewhat like that produced by log-wood. It did not coagulate like that of the young patient, but separated into a serous fluid, containing a few clots very little colored.

"The coagulable lymph, *gluten*, or *fibrin*, is that part of the blood which, as has already been mentioned, forms with the red globules the *crassamentum* or clot.

"When the crassamentum is deprived of its red globules which may be readily done by allowing a small stream of water to pass upon it, and by squeezing out the serum, what remains is the coagulable lymph. It is a white, tough, elastic mass, having a fibrous appearance, even in some instances apparently formed into laminæ.

"This is the ingredient of the blood which renders it susceptible of coagulation, when removed from the living body, both in healthy and in certain diseased processes,—a change, which, whether we regard its rapidity, its degree, or its various modifications, forms an important diagnostic character in particular diseases.

Mr. Dowler, in his ingenious paper, observed, that when inflammation takes place accompanied with effusion, the first substance that escapes is serum,—but if the inflammatory action increases, *fibrin* is effused, and the inflammation still increasing, pus is then formed.

"While the blood is in a fluid state, the coagulable lymph cannot be separated from the serum, but in disease this separation often takes place. Hence coagulable lymph is effused on the surfaces of inflamed membranes, or into cavities, such as those of the pleura and peritoneum; whilst in other diseases, the serum is separated from the blood, and collected in cavities, forming the different dropsies.

"The coagulable lymph is found in the greatest quantity in the blood of those afflicted with inflammatory affections of the fibrous textures, particularly in rheumatism.

"There is a very considerable difference to be sometimes observed in the quantity of the coagulable lymph in blood taken in different cups from the same patient at the same bleeding. In some instances this difference has been observed nearly one-half. The coagulable lymph of healthy blood is more firm than that of sizy blood.

"Whilst the blood is coagulating, the process takes place so quickly in healthy blood, that the red globules are diffused throughout the whole of the crassamentum. But this is not the case in some diseases wherein the coagulation occurring more slowly, the red globules, from their greater specific gravity separating from the coagulable lymph, are found disentangled at the bottom of the vessel. In some cases the coagulation takes place when the red globules have scarcely reached below the surface of the crassamentum; and it is this portion, deprived of red globules, which forms what is called the "buffy coat."

"The buffy coat or "inflammatory crust," as it is likewise called, is of very different degrees of thickness, and the time for its production varies from a few minutes to upwards of half an hour.

"The appearance of a buffy coat is generally considered as one of the most striking characters of the inflammatory diathesis. A buffy coat, however, is not to be deemed, either as a certain test of inflammation, nor is it a safe index of the propriety of blood-letting. Whilst inflammatory diseases are at their acme, there is often no appearance of the buffy coat in blood taken from a vein; but in the latter stage of inflammatory disease, and when blood can no longer with propriety be abstracted, the buffy coat becomes remarkable. In local inflammation, before the constitution appears much influenced, the blood which is drawn from the larger vessels of the inflamed part, has been found to form a buffy coat, whilst blood drawn from distant vessels does not show the same disposition.

"Dr. Tweedle once saw the buffy coat in blood taken from the temporal artery of a person labouring under pneumonia, and the great prevalence of the buffy coat in diabetes first lead Dr. Watt of Glasgow to treat that disease by frequent bleedings.

"In the advanced stages of pregnancy, it has often been observed, that the blood has a peculiar disposition to form a buffy coat.

"Dr. Hamilton has observed that the blood drawn from the arm of the most delicate and debilitated individual, subjected to a course of mercury, exhibits the same buffy coat as blood drawn from a person labouring under pleurisy.

"If a man in health be bled immediately after taking violent exercise, the blood shows a buffy coat."

Under the next head we have the "utility of blood-letting—difference of abstracting arterial and venous blood—of a local abstraction of blood," etc.

The antiquity of the remedy is adverted to—which we look upon as a very idle matter in a small practical treatise on the remedy. The author speaking of arteriotomy, observes,—

"The result of my own experience is unfavorable to arteriotomy; having generally found that the inflammatory symptoms recur much more frequently af-

ter a certain quantity of blood has been removed from an artery, than if an equal quantity had been taken from a vein; and I know that this coincides with the experience of others. There are, however, cases where the difficulty or even the impossibility of procuring the requisite quantity of blood from a vein, renders arteriotomy an important and even an indispensable operation for the abstraction of blood.

"A little reflection on these two modes of Blood-letting, may to a certain degree explain how this difference of effect is produced.

"When blood is abstracted from an artery, there is an immediate diminution in the supply of blood to the part nourished by that artery; but such is the vigour of the anastomosing branches, that the supply of blood which is thus cut off is very quickly restored. This is confirmed by observation. If one of the carotids be tied, almost immediately the temporal and occipital branches of the carotid of the opposite side can be distinguished through the integuments, dilating themselves, becoming tortuous, and struggling, as it were, to circulate an additional quantity of blood. I was first led to make this remark in the case of a child, on whose carotid artery I had placed a ligature for the cure of a large nævus on the cheek. Almost immediately after the operation, I observed the frontal, temporal and occipital arteries of the opposite side of the head enlarging, increasing in their action, becoming tortuous, and actively employed in supplying the place of those vessels whose channels had been obstructed. Indeed it was a knowledge of this function of the anastomosing branches of arteries, when a trunk is obliterated, that led HUNTER to perform the "high operation," for popliteal aneurysm.

"The same interesting phenomenon is exhibited in the eye. If an artery on the sclerotic conjunctiva, passing into the speck of the cornea, be cut through, vessels containing red blood will be immediately perceived, stretching across the cornea from the opposite side, to supply the place of the vessel which had been divided.

"Whenever the supply of blood to a part is diminished, the arterial system, by a wise provision of nature, makes an effort to throw blood by another channel to the part which has been deprived of its natural quantity of blood, and the action of the heart and arteries must be more or less increased; but the abstraction of blood is followed by no such increased action of the arterial system,—there is no local diminution in the supply of arterial blood,—no effort made by the arteries to supply the place of the venous blood which has been removed. On the contrary, a diminution in the supply of blood to the heart by the veins will, as I have just observed, have the effect of diminishing the vigour of the heart's action, and consequently, that also of all the arterial system.

"The effects of opening the temporal artery in puriform opthalmia, will illustrate the differences between arterial and venous depletion in the treatment of inflammation. An eye injected with red vessels, will be suddenly relieved by opening the temporal artery, and the conjunctiva will become quite pale, inducing us to suppose that the inflammation is subdued. I have generally found, however, that sooner or later, even in a few hours, the inflammation returns; and others have made the same remark: whereas, if a vein in the arm be opened, and blood taken to the full extent, the good effects of such depletion are permanent.

"There is, therefore, a distinct and important difference between the changes which take place in the action of the vessels of a part, when blood has been taken from an artery or from a vein, and it explains the difference in the effects which I have always found when those two models of abstracting blood have been employed.

"It is also extremely probable, that there will be a variation produced according to the kind of blood which is taken away,—that the removal of a pint of arterial blood will produce a different effect on the system, from the removal of the same quantity of venous blood. What these differences are I cannot pretend to specify, but one proof that the abstraction of venous blood is the more useful in the cure of disease is, that in those natural or "spontaneous hemorrhages" which are so salutary, such as those from the nose and hemorrhoidal vessels, the blood which is discharged appears to be chiefly venous. Where leeches and cupping are had recourse to, they no doubt remove both arterial and venous blood at the same time; so that the circumstances under which these operations are performed,

do not furnish us with any opportunity of discriminating between the comparative effects of the abstraction of venous and arterial blood.

"Another point which ought to be borne in mind, when weighing the advantages of abstracting arterial and venous blood, is, that the temporal arteries as they pass over the zygoma of the temporal bone, can only be once opened at the proper point for the operation. For arteriotomy is not like venesection,—the wound made in the vein when united, leaves the canal of the vessel entire; whereas when an artery is opened, it is requisite, after taking the necessary quantity of blood, to divide the vessel completely in order to allow it to retract, that the bleeding may be stopped; for it is impossible to attempt this by compression alone. The canal of the artery becomes, therefore, by the operation of arteriotomy, completely obliterated, and as the circulation is afterwards carried on by a greater or less number of enlarged anastomosing branches, neither the original trunk nor a branch of sufficient calibre will be found in the temporal region, on which the operation of arteriotomy can be repeated, should such a measure be ever deemed necessary."

The question, which is one of importance to the physician in inflammatory diseases, is, shall I bleed generally, or locally—or both? General bleeding where there is much general disturbance of the circulation should always precede local detraction of blood.

We accomplish two objects by general blood-letting. 1st. We diminish the momentum of the heart's action to such an extent that when we employ topical bleeding, the capillary vessels of the part, being thus depleted, are not rapidly re-filled, which would be the case if the urgent pumping force of a powerful ventricular contraction was maintained. 2d. We, by general blood-letting, so diminish the impulsive energy of the heart as to render it expedient to take by local bleeding only a comparatively small amount of blood. The following suggestions in reference to local bleeding we think well worth extracting.

"The effect of losing a small quantity of blood locally, is, indeed, often surprising. Of this I might give some remarkable illustrations. An instance of the kind to which I allude, occurred in a lady, who, after employing local and general bleeding for a disorder in her head, applied to an itinerant doctor, celebrated for curing headachs. He introduced an instrument into the nose, by which he wounded the Schneiderian membrane, and produced a flow of blood; and the evacuation which followed, completely cured the headach. It was in a case of this kind that Galen is said to have acquired much renown, by successfully prognosticating that a patient would have a flow of blood from the nose, by which the affection of the head would be relieved.

"I had often thought that some mode might be contrived, by which an artificial flow of blood from the ethmoidal vessels could be produced,—as there are, no doubt, many affections of the head which would be relieved by such an operation, —or that leeches might be safely applied to the interior of the nostril.

"A lady had long suffered from headachs; I advised her to apply leaches within the nostril. One was accordingly applied on each side of the septum, and her headachs were completely relieved. Another lady, after severe mental affliction, complained of uneasiness in the head, for which blood-letting was employed. She had frequent returns of the headach, and was always relieved by depletion, leeches being sometimes applied behind the ear, on the temples, or on the feet.— On one occasion, when sense of fullness continued in the frontal region, after trying the usual modes, I advised her to apply a couple of leeches to the nasal septum, and the bleeding had the happy effect of completely relieving her head. Subsequent to that period, she had occasional returns of headach, and she found that a small bleeding from the nose never failed to give a more decided relief than she had ever obtained from any other mode of blood-letting.

"The practice of applying leeches within the nose is well exemplified in a patient who was under the care of Mr. Miller of Enfield. "A gentleman, fifty-six years of age, had for several weeks complained of a sense of weight and pain, extending along the forehead, particularly in the region of the frontal sinuses; purgatives, and leeches to both temples, were resorted to with little benefit, which led me to adopt the practice lately recommended by Mr. Wardrop, of withdrawing blood from the vessels of the Schneiderian membrane. I applied one leech within each nostril, which bled freely, and I had the satisfaction to find the patient next day, completely cured."

"I have now had frequent opportunities of testing the comparative advantages of the different modes of abstracting blood in affections of the head, and I am fully persuaded that the application of a small number of leeches, and these, on the lining membrane of the septum of the nose, is, in many cases, the most preferable mode of blood-letting, more particularly in those where the uneasiness in the head is limited to the frontal region; and also in cases of chronic inflammation of the eye, and inflammatory affections of the lachrymal sac. In all such cases I have repeatedly recommended patients to apply the leeches alternately on the nasal septum, and on the part adjoining the inflamed organ, and to compare the effects of each; the result of this has almost invariably been, that they have given a decided preference to the abstraction of blood from the nose."

The practice of Mr. Hutchinson, of free scarification by incisions in erysipelas, is commended highly by Dr. W.

Mr. Travers, we observe, in his late work on Constitutional Irritation, the second part of the work published ten years ago, warmly eulogizes this mode of treating erysipelatous inflammation.

When is general blood-letting indicated? In answer to this inquiry, the author remarks—

"The leading symptom by which the constitutional disturbance demanding venesection is indicated, will be found in the *quality of the pulse;* and, in deciding on the propriety of blood-letting, it is not always necessary that we should find the pulse frequent, or tense, or full, or hard, but to be on all occasions satisfied of the propriety of abstracting blood from a vein, whenever, in any complaint of an inflammatory type, or under circumstances such as those which often arise after operations, or from accidents, there is the least deviation in the pulse from the natural standard. No sooner have a few ounces of blood been abstracted in such cases, than the pulse will be observed to "rise," as it is called, and to acquire volume and power; thus indicating the propriety of the measure.

"There is nothing more uncertain than trusting to the qualities of the pulse which are usually described as those which alone indicate the propriety of blood-letting; and we ought ever to be aware of the important fact, that, during an attack of inflammation, the pulse varies according to the organ which is affected, and is even different in inflammatory affections of different textures of the same organ,—except in one particular character, which shall be presently pointed out.

"The mere increase in the *frequency* of the pulse is a circumstance of little importance in estimating the propriety of blood-letring, compared with certain changes in its qualities; and, therefore, the usual practice of counting merely the number of pulsations, is apt to lead to an erroneous conclusion. In two patients, in each of whom the pulse beats 120 in a minute, the one may require to be plentifully bled, whilst the other ought to have cordials!

"Little difficulty occurs in distinguishing those states of the system which require general bleeding when their symptoms and character have become distinctly developed. It is before they arrive at this period, and when medical treatment is most available, that their true nature is apt to escape detection, and there are many states of disease where substantial advantage is to be derived from venesection, but where, at the same time, it could not, perhaps, be affirmed, from the

presence of any particular symptom, that inflammation did actually exist. "Inflammation in some textures of the body," observes an intelligent writer, "is so obscure in the beginning, so insidious in its progress, and so rapid in its termination, that in all cases in which the surgeon hesitates respecting the necessity of bleeding, it is a wise plan not to deprive the patient of the benefit of the doubt, but immediately to proceed to venesection."

"It is certain that there is a period of disease, when bleeding is not only unnecessary but improper; and there is likewise a moment when venesection may be had recourse to with more advantage than at any other. To detect this precise period must, therefore, be of great practical importance. In those who have been wounded, or who have met with a severe accident, or on whom an operation has been performed,—in all such cases the action of the heart and arteries, which is at first diminished by the general shock received by the whole system, should be allowed to recover, or reaction should take place before resorting to blood-letting; and this rule applies generally to all inflammatory diseases. The chill, for instance, which a person receives from the sudden exposure to a change of temperature, and which lays the foundation of an inflammation in some of the internal viscera, produce a collapse of the whole frame, which is not followed, until after a certain period, by those inflammatory symptoms which require blood-letting.

"The peculiar feeling in the pulse to which I have alluded, and which points out, almost universally, the propriety of venesection, is sufficiently well indicated by the term "incompressibility." An incompressible state of the pulse may, I venture to say, be considered as pathognomic of inflammation, in whatever organ or texture that inflammation exist. I have already remarked, that each of the different textures of an organ, when inflamed, is attended with some peculiarity of the pulse. Inflammation of the dura mater,—of the cerebral pulp,—of the pleura,—of the mucous membrane of the bronchi,—of the pericardium,—of the muscular parietes of the heart,—of the serous membrane which lines its cavities,—of the peritoneal and mucons coats of the intestinal canal,—are each accompanied by peculiarities of pulse; but in all we can detect an incompressibility. For whether the pulse be full or small, hard or soft, frequent or slow, if with the point of one finger the artery be pressed at the wrist, we shall perceive with another finger applied to the artery beyond, and at the distal side of the first finger, that unless a very considerable degree of pressure be employed, the pulsation of the radial artery will not be destroyed, but the sensation, as if of a fine thread, or hair, will remain.

"This incompressible state of the pulse. indicative of the propriety of blood-letting, is illustrated in some of the subsequent cases; and we may often observe instances of persons being relieved from internal disease by profuse and spontaneous hemorrhage, and in whom no deviation in the pulse, from its natural state, could be detected, except as regards this feeling of incompressibility.

"Attention to this quality of pulse I can with confidence assert has scarcely ever failed to guide me, in the use of phlebotomy, even in otherwise doubtful circumstances; and a conviction of the accuracy of the observation has led me to adopt bleeding in many cases, where I could not otherwise have ventured to employ it, and where there were not present any of the ordinary indications of inflammatory action. It was this state of pulse which first pointed out to me the propriety of employing venesection in erysipelas,—in cases of sloughing ulcers,—in exanthematous fevers,—in cases of poisoned wounds,—in specific diseases,—and in certain stages of several other affections afterwards to be noticed, and where an opposite practice is frequently, nay usually, followed.

"In most of the diseases which have now been alluded to, by a superficial examination of the pulse, an impression is generally received that there is a feeble state of the system, and hence, in place of a depletive or antiphlogistic mode of treatment, wine, bark, and stimulating remedies, have been employed. But we can be readily satisfied of the result of these two very opposite modes of treatment in some of those diseases, by observing the practice in the different hospitals of this city, where patients, afflicted with similar ailments, are bled profusely by one practitioner, and by another, get as much bark and wine as their stomachs can receive.

"Though I have never observed an incompressible state of the pulse, without having found venesection to be an expedient measure, yet there are other qualities perceptible in the pulse which also indicate the propriety of blood-letting. A hard pulse,—a firm pulse,—a full pulse,—a wiry pulse,—an oppressed pulse, all, in their turn, either taken singly, or combined with other symptoms, more particularly local pain, hot skin, and white tongue, point out the propriety of employing venesection.

"No power of discrimination requires more attention and experience than such a knowledge of the pulse as enables us to distinguish its various peculiarities, both in health and in disease. This knowledge entirely depends on the exercise and improvement of the sense of touch. Like that of sight and hearing, the sense of touch differs exceedingly in acuteness in different persons, but in all it is capable of improvement. We must not expect at first to be able to distinguish these nicer differences in pulses which are palpable to an experienced finger, any more than we could expect at once to be able to perceive the slighter varieties in the shades of colour, so easily discernible by a skilful painter. All the senses require tuition. We ought to practise, by feeling a number of different pulses, both of people in health, and of those with disease, one after another; and by first observing strong contrasts, we ultimately become familiar with lesser differences in the pulse, all of which essentially assist in pointing out particular states of the vascular system."

We acknowledge our astonishment at two assertions of the author—"that there is frequently a difference in the frequency of the pulse of the two arms of the same person;" and "that the pulsations of the heart and arteries do not always correspond." In neither of these positions can we coincide—nor do we perceive on what data they are founded.

Pain is frequently a criterion of the necessity of sanguineous depletion. When the pulse is *weak*, but *hard*, the intensity of the pain should determine us to draw blood.

The importance of the first bleeding is thus discussed by the Doctor.

"There is no maxim of the practical correctness and importance of which I am more fully convinced than that the loss of a certain quantity of blood at the *first bleeding*, is of greater utility in stopping the progress of inflammatory diseases when general bleeding is required, than the abstraction even of a much larger quantity of blood, say sixty ounces, at three successive bleedings of twenty ounces each,—performed within thirty-six hours,—an infinitely greater degree of relief will be derived from taking two-thirds of that quantity at one bleeding. Not only will the progress of the disease be thus more quickly and decidedly checked, but the patient will be saved the loss of twenty ounces of blood.

"The good effect of abstracting so large a quantity of blood at the first bleeding might be expected, without adopting any preconceived opinions or theory on the subject; for, as we have been taught by experience, that the great benefit of abstracting blood is derived from the sudden change which such depletion produces on the action of the heart and arteries, it is evident that such change must be effected in a more decided manner by abstracting a quantity of blood at one bleeding suddenly, than by taking away an equal quantity slowly, and at more or less distant intervals.

"In almost all cases where bleeding is employed, there is a disposition on the part both of the patient and bystanders, and often too of the medical attendant, to be as sparing as possible in the evacuation of blood; whereas in the generality of cases an effort, I am convinced, should be made rather to take away as much as the patient can bear, and not to desist until there be rational grounds to expect that a second bleeding will not be necessary."

We think with the author that too much stress has been laid on the indication of syncope—and that an exaggerated view has been taken of the beneficent results of such a superinduced state.

"It has been laid down as a common rule for the treatment of inflammatory diseases, that blood should be abstracted until *syncope* is produced; by which we might be led to suppose that the fainting was either a certain token of the quantity of blood that should be taken away, or that it was the act of syncope itself, and not the loss of blood, which was to cure the disease.

"Hence we often hear of persons being bled until they fainted, as a proof of the vigour of the practice which had been employed, without considering whether the fainting had been produced by excessive depletion, or from the particular position of the patient whilst the operation was performed. Suppose two individuals similarly affected, and in every respect in the same state, one of whom is bled in the erect posture until he faints, whereas the other faints from the loss of blood whilst he is recumbent. In the first patient the syncope will probably be produced by losing one-half the quantity necessary to be removed before the second patient falls into a state of syncope.

"In having recourse to venesection, it is, therefore, important to consider whether the purpose of the operation be to abstract a certain quantity of blood from the system, or merely to produce syncope. When it is desirable to make a person faint with the loss of as little blood as possible, as, for instance, for facilitating the reduction of a strangulated hernia, or dislocated bone—then venesection ought to be performed in the erect posture. But for the abstraction of a certain quantity of the sanguineous fluid, in the treatment of diseases requiring depletion, fainting ought not to be considered as an index of the quantity of blood proper to be withdrawn; but the usual means should be taken to avert its occurrence, except when the patient is in a recumbent posture at the time the venesection is performed. Indeed when employing blood-letting for the cure of inflammatory diseases, we ought to be particularly cautioned against placing too much confidence in the idea that, if we have bled a patient *ad deliquium*, we have carried the bleeding to its full and necessary extent. On the contrary, when, in any case, syncope has followed the abstraction of an unusually small quantity of blood while the patient was in a recumbent position, then we ought, in one or two hours, again to examine the patient, when probably it will be found that the action of the vascular system has renewed its vigour, and the inflammatory symptoms continue, so that if blood be again allowed to flow from the vein, a very copious bleeding will sometimes be requisite to reduce the pulse.

"This "premature" state of syncope, as it may be designated, not only arises from the patient's being bled in the erect posture, but is sometimes the effect of a moral influence, and, therefore, when under such circumstances the fainting state goes off, the inflammatory symptoms may soon re-appear.

"A gentleman was seized with severe pains in the bowels, accompanied by a good deal of tenderness on slight pressure, along with some degree of febrile excitement. On opening a vein in the arm, only a few ounces of blood were removed, when the pulse sunk and he fainted. I visited him about two hours afterwards, and having recovered from the state of fainting, but not having experienced any relief, I again applied the bandage on his arm. Blood flowed freely from the wounded vein, and he did not fall again into a state of syncope, until he had lost about thirty ounces of blood; and this, along with purgatives, was followed with permanent relief."

We hear and read much of the changes which the blood undergoes in disease; and ever since the days of Hippocrates, the pathology of the fluids has been a favorite theme of declamation with the majority of the profession. We say, without meaning to give offence, declamation; for surely it is little better, as long as well ascertained and carefully reported facts are not adduced.

Now what are the different conditions of the blood which afford criteria for regulating the employment of the lancet? Dr. Wardrop thus writes:—

"There are appearances which the blood presents, both whilst it flows from a vein, and after it has been kept some time and allowed to coagulate, which appearances have been considered as affording criteria for regulating the quantity of blood to be withdrawn, and also for the repetition of the venesection.

"In violent inflammations, the blood usually flows from the wound in the vein with great force; whereas in other conditions of the system the stream is comparatively slow. In the first condition, bleeding ought to be as profuse, as in the latter it should be limited.

"The colour of the blood as it flows from the vein, also varies in different examples of disease, being in some very florid, or of a scarlet red, and in others of a crimson red or deep purple colour. The first state of the blood indicates the propriety of bleeding, whilst the latter points out a state of the system where but a very moderate depletion is admissible.

"The appearances which blood assumes after it has been allowed to stagnate, are also supposed to afford criteria for the repetition of venesection. The appearance of a buffy coat, and the comparative quantities of crassamentum and serum have especially been considered as an index of the existence of inflammation, and of the propriety of blood-letting.

"Whilst all these circumstances are mentioned, I must at the same time repeat what was stated in a former discourse, when explaining the different changes of the blood, that *these* can never be a criterion for estimating the quantity of the sanguineous fluid which it may be proper to remove, whilst the blood is flowing from the vein, neither can any appearance of the blood after its coagulation, guide us in repeating the venesection. The appearance of the buffy coat has been chiefly dwelt on as an important character of the inflammatory diathesis; but it has been already observed, that the buffy coat is not to be considered either as a certain test of inflammation, or as a safe index of the propriety of blood-letting. There is usually no appearance of the buffy coat in blood removed from persons affected with violent inflammations until the latter stage of the disease, and at the very period when the further abstraction of blood would be pernicious; in many diseases on the other hand where blood-letting is unnecessary or even hurtful, the buffy coat may be occasionally observed."

The author next speaks of the different methods of abstracting blood—these are familiar to the profession. We will notice one or two points more, and by additional quotations from the work enrich still more or pages—

Under "Injurious effects of Blood-letting, immediately after Injuries," etc., the author thus speaks:

"There is one class of cases in which blood-letting is often very unnecessarily, and sometimes perniciously employed. I allude to the common practice of bleeding persons immediately after an accident, or during an apoplectic or convulsive fit. In many accidents, more particularly where the head suffers, the first effects of the injury are a diminution or collapse of the vital powers; and, if under such circumstances blood be abstracted, a still further diminution of these powers is produced. Hence it is not until the powers of life have revived, or a *reaction* has taken place, that we should, after severe injuries, employ blood-letting.

"The servant of a medical society fell from a chair at the time of one of the meetings, and whilst still in a state of insensibility, surrounded with medical students she was bled. It was at least fifteen months after that bleeding, although it was very moderate in quantity, before she recovered her natural strength. Many have suffered, from a too early use of the lancet after accidents.

"In cases of *apoplexy*, I believe that blood-letting has frequently been carried to a very unwarrantable, and even fatal extent.

"In proportion to the violence of an apoplectic shock, so are the powers of life diminished; and hence, if the quantity of blood abstracted be regulated by the *severity* of the symptoms, in like proportion will the practice be hurtful by still farther diminishing the vital powers. When a person is in a state of insensibility from an apoplectic fit, those around are too apt to urge the necessity of bleeding, conceiving that the loss of blood will relieve the disease in the head.

"It is therefore proper in all cases to allow the *shock* to pass over and the circulation to revive before abstracting blood—and the quantity which is taken away ought always to depend on the vigour of the heart's action.

"A surgeon was sent for to see a patient, who had fallen down suddenly in an apoplectic fit; he immediately opened a vein, and after abstracting only a few ounces of blood, the pulse sank. When he visited this patient several hours afterwards, he found the powers of life so feeble that he ordered him cordials, by which the action of the heart, and arteries began to revive. Soon after this, however, a physician was consulted, and he *prescribed* a copious venesection, after which the patient sank rapidly, and in a few hours expired!

"In cases where there are organic changes in the brain's structure, and when the sudden apoplectic attack is caused by some vessel of the *diseased part* giving way and pouring out blood, blood-letting is of no avail, and when had recourse to when the pulse is feeble, and the vital powers already much diminished from the shock, it never fails to hasten the patient's death: therefore under such circumstanstances blood-letting ought to be resorted to with great caution.

"A lady considerably advanced in life was found during the night lying on the floor,—her servant, who was in an adjoining apartment, having been awoke by the noise of her mistress falling out of bed. She was found perfectly insensible, and the pulse so languid, that the surgeon who was sent for ventured to take only a few ounces of blood by cupping; her pulse never revived, and in four hours she expired. It was found that her death was occasioned by an effusion of blood into the ventricles, the heart and aorta being also diseased.

"It is in cases of this description that blood-letting, even to a small extent, must, by diminishing the powers of life, prove injurious, and, if carried beyond certain limits, inevitably hasten dissolution.

"A patient who had long suffered from an affection of the heart, and who had for many years complained of a pain in the occipital region, suddenly tumbled down senseless, and when he endeavored to rise, the left arm and leg had become quite motionless. On visiting him a few hours after this attack, I found his pulse so feeble and the powers of life so depressed, that in place of a depletive system of treatment, I recommended the use of ammonia, and camphor, -and what was remarkable in this case was that the paralized limbs gradually acquired their natural power, and in four days the paralytic affection was completely removed. Four months after this illness he was again suddenly attacked, and his condition being considered apoplectic, he was freely bled and purged, and in about twenty hours he expired!

"On opening the head a large clot of extravasated blood was found in the substance of the left hemisphere of the brain,—and in the right hemisphere, there was a large cavity which contained a small quantity of a dark coloured sanguineous fluid, not sufficient to fill it, and which no doubt was the remainder of the effusion which had taken place during the first attack. The arteries at the base of the brain were much dilated, and their coats considerably thickened. There was dilation of the left ventricle, its muscular parietes were thickened, and some portions of the semilunar valves were ossified."

The curative effects of abstracting blood in fevers; eruptive fevers—erysipelas—acute inflammations—congestions—wounds and ulcers are discussed in the last chapter of the work.

The utility of bleeding in febrile affections is a familiar subject to American physicians. Eruptive fevers often demand the lan-

cet. The author adverts to the employment of the remedy in them.

"Blood-letting may also be resorted to in the early stages of *scarlet fever*, particularly when there is a determination of blood to any particular part, as the chest or head. Sometimes the inflammation of the throat, the characteristic feature in this disease, is so severe, that much relief is obtained by local bleeding, more or less profuse; but when any of the vital organs are affected, then venesection is preferable.

"There is in this disease, as in erysipelas and other of the exanthemata, a notion with many, that patients cannot endure a depletive system, or that such is unnecessary for their treatment. It cannot be denied that, like most other diseases, the scarlet fever in many cases passes through a very mild course, having scarcely a symptom requiring any particular treatment; and there are examples wherein the pulse from the very commencement of the disease is feeble, and the powers of life sink rapidly. We ought also to be aware, that cases of scarlatina do occur, where severe inflammatory symptoms come on, and of that degree wherein blood-letting is highly to be recommended. The additional vigour which the pulse acquires whilst the blood flows from the vein, will be an unerring guide for estimating the propriety of the measure, and the extent to which it should be carried.

"The benefit of blood-letting, when the febrile symptoms accompanying *small-pox* are severe, or when inflammation affects any particular organ, is equally great. An intelligent army-surgeon made it a general rule, from which he experienced the greatest benefit, always to bleed soldiers on the commencement of the fever preceding the eruption.

"A lady was attacked with severe febrile symptoms, for which she was profusely bled, and with great relief. On the following morning it appeared that she was afflicted with small-pox, and her medical attendant at first expressed his regret at having had recourse to venesection. Such, however, was the mild progress of the disease, when viewed in comparison with that of many who were affected in the same town, that all were convinced the blood-letting had been highly beneficial, and had mitigated the febrile symptoms.

"When considering the effects of local bleeding, I remarked that its benefits were exemplified very strikingly in cases of *erysipelas*, from the relief derived by the profuse hemorrhage which followed incisions made into the inflamed integuments. Such a practice, will, however, I am persuaded, be seldom found necessary, if blood-letting be had recourse to in the early stage of that disease.

"From a supposed *typhoid* character of erysipelas, it was, and with some still is, the general practice never to deplete or pursue an antiphlogistic plan of treatment; and I well remember visiting a lady who was suffering from a very severe attack of erysipelas in the face, and finding at her bed-side a large tumbler of wine-and-water, and that she was taking as much bark as her stomach could receive. By bleeding her freely at the arm, repeating the operation three times successively at short intervals, along with purging and antimonial medicines, she rapidly recovered; and another medical attendant expressed his surprise at the treatment I had employed, remarking that during a long attendance at a public hospital, he had never known blood-letting employed in erysipelas,—adding, that nearly all the cases which he had seen of that disease affecting the face and head had terminated fatally.

"In erysipelas there is usually a peculiar feeling in the pulse, which is apt to dissuade the practitioner from the employment of blood-letting. The pulse though small, will however be found more or less *incompressible*, and whilst blood is flowing from a vein, it acquires more and more volume, and often a very considerable quantity is abstracted before a fainting state supervenes.

"The abstraction of a quantity of blood ought to be had recourse to, before and after most surgical operations. When operations prove unsuccessful, I have always remarked that in by far the majority of cases, the patients die of inflammation of some internal organ. Bleeding therefore will, when early resorted to, and carried to a proper extent, have the effect of always checking any inflamma-

tory disposition, and it will also be the means of securing the healing of the wound by adhesion, when such is desirable.

"The modes of abstracting blood for such purposes consist, either in taking away a quantity before the operation,—in allowing the divided vessels to bleed during the operation—or in employing venesection after the operation. Now all these *three* methods ought to be adopted separately or conjointly in particular cases.

"When an operation is to be performed on a plethoric subject, and an operation where little blood can be lost—more particularly in operations for *cataract*, in which no blood-vessel is ever divided,—then it is very judicious to bleed the patient on the morning of the operation; any future bleeding, of course, depending on the snbsequent symptoms.

"Bleeding, too, not only increases the action of the bowels, but it promotes the mercurial action. Dr. Fordyce used to say that in some cases of constipated bowels, we ought to open them with a lancet; and the late Mr. Gibson of Manchester was in the habit of bleeding largely when he was anxious to influence the system rapidly with mercury, and I have repeatedly observed how quickly affected was the system of those who at the same time were bled."

We are glad to find that this valuable little work has been republished in this country in the first number of Prof. Dunglison's excellent periodical—the American Medical Library and Intelligencer. We take this occasion of giving our earnest recommendation of this new and able semi-monthly "Record of Medical Science and Literature." We hope that the profession will give it their effective support, for it is, in every way, worthy of a wide and liberal patronage from the medical public.

J. P. H.

Art. 5.—Homœopathia.

Homœopathic Medicine; Illustrating its superiority over the other Medical Doctrines, with an account of the Regimen to be followed during the treatment of Diseases. By M. Croserio, M. D., President of the Homœopathic Society of Paris, &c. &c. Translated from the French, with Notes, by C. Neidhard, M. D.—12mo. pp. 89. Philadelphia: 1837.

This is, in many respects, a most extraordinary and singular little book; extraordinary for its bold and unsupported assertions, singular for its enthusiastic praise of a system of medicine which bears upon its very front the impress of folly and destruction. It has been said by an able divine, that there is no doctrine in religion, however absurd, that has not

had its admirers and proselytes, and the same, we are sure, is eminently true of medicine and its kindred sciences. Centuries elapsed before physicians were able to break the fetters which had been bound around them by Galen; years passed before they perceived the fallacies of the bewitching theories and hypotheses of Boerhaave, of Darwin, of Brown, and of Cullen; and many a sun will sink into the dark shades of night before they will be able to free themselves from the authority of a Broussais, a Hahnemann, and a Rush.

To the vulgar there is always something peculiarly fascinating in dogmatism, and when a man asserts upon every page of his book, "*I speak from experience*," he is as sure of his game as Colonel Crockett was when he grinned at a squirrel. Authority with the unthinking part of mankind is everything; it is a sort of bastinado, from which there is no appeal. "Ich rede aus erfahrung," why the phrase is absolutely irresistible. Every reader of Hahnemann is convinced, and whilst staring with admiration at the sublime truths of the "new doctrine," he gulps down at one effort the whole materia medica of the German mystic.

We have said that Dr. Croserio's book is extraordinary for its impudence and bold assertions. To substantiate this remark, it is only necessary to quote his own language. Thus, at the close of the work, in summing up the reciprocal advantages of homœopathia and the old medical doctrines, as he is pleased to style them, the author makes the following statement, which we shall present to our readers in full.

"1. The homœopathic physician investigates most accurately every circumstance calculated to throw light on the nature of the disease, in order to seize its particular characteristics, and he does not permit his imagination to mislead him by suppositions.	"1. The allœopathist is satisfied with the investigation of the general character and species of the disease and of its nature according to the prevailing theory.
"2. He always employs agents which have been previously tried, and with whose effects on the healthy body he is perfectly familiar.	"2. He only employs remedies with which chance has furnished him, or which have been tried merely in diseases of the same name, or according to virtues which his imagination suggests to him.

"3. He always exhibits medicines without any admixture, which might disturb their action.

"4. He employs medicines in the smallest doses, and at prolonged intervals.

"5. He does not spill the blood and animal fluids; nor does he torment the patient with blisters, moxa, &c.

"6. He prescribes a simple regimen conformable to the laws of nature, endeavoring to preserve the strength of the patient, so as to make no period of convalescence necessary, or to render it very short.

"3. He exhibits several substances at the same time, which will reciprocally destroy one another, or produce an uncertain and irregular effect.

"4. He uses them in very strong doses and at short intervals.

"5. He spills the blood and other animal fluids, and torments the sick by painful irritants which enfeeble and retard the healing powers of nature and exhaust it.

"6. He prescribes total abstinence from food, or a choice of aliments little appropriate to the function of the stomach, enfeebling the patient and rendering the cure very slow and difficult, and the convalescence endless.

In winding up this comparison, which reminds one of the fly and the ox in the fable, our argumentative Croserio adds, by way of capping the climax, the following delectable morceau: "The homœopathist attains therefore, as nearly as possible, all the conditions prescribed by Celsus for a good cure, *tuto, cito, et jucunde*;" in plain stage-coach English, with safety, dispatch, and gentleness. This, indeed, is going at a most rapid rate, and if the allœopathist escapes, he may thank his stars rather than the complacent disciples of Samuel Hahnemann.

In speaking of bleeding, of which, in common with all homœopathists, he has evidently a great horror, Dr. Croserio whines and laments in the true style of a modern philanthropist. It has been said by some antiquarian, that Adam was above a hundred and thirty feet high, and that our author, and for aught we know to the contrary, the whole tribe of homœopathists, are firm believers in this doctrine, fully appears from the subjoined quotation. "Is it to be wondered at, then," says he, "that mankind degenerate, that the human size becomes smaller and smaller, and the limbs less strong, that the powers of the mind become weakened, when we see a fluid, on which depend the nutrition, growth, and vigor of the body, so rashly spilled." This, indeed, is a serious matter, and calls loudly for reform. To abstract the vital fluid we have long deemed an outrage upon society, and unless we wish all our children

to become Lilliputians, it should no longer be tolerated by any of the people. Bleeding weakens the body, and stints the growth; but is in-as the retention of the blood invigorates, expands, and elongates it. In truth, this is a thought worthy of the gods, and for which the Great Frederick of Prussia would have given half his dominions. Dear mothers, only retain your blood, and your offspring will soon rival their great progenitor, Adam. By the way,—and we put the query in all soberness,—is not bleeding the cause of man's depravity and wickedness? Would not physicians be less liable to quarrel if they no longer lost blood by the lancet?

"It was time," says Dr. Croserio, "in order to prevent the complete degradation of the human race, that a more rational system of medicine should succeed one productive of such pernicious practice. To prevent our total destruction, God, in his infinite goodness, has raised up the founder of homœopathia, to heal diseases with remedies more in conformity with the intentions of nature, and to re-establish health without destroying the source of life." "This," adds the translator, "is undoubtedly very true. Several homœopathic physicians have already observed in their practice, that all children, born after the parents had been subjected to homœopathic treatment, were generally much stronger, healthier, and less liable to disease, than those born whilst the parents were treated in the old way. We may therefore justly entertain the hope, that with the extension of homœopathia, a stronger, and certainly also, a more noble generation will rise up in future time."

Such are a few specimens of the arrogance and self-conceit of this Frenchified homœopathist; the espouser of a foolish system, which promises to cure all diseases, to prolong the term of human existence, and to restore mankind to their primitive altitude and mental powers. For such purposes has God sent Hahnemann! Was there ever more absurd bombast, more outrageous flummery, more extravagant folly? Hohenloeism is a pigmy to it; Thompsonianism a mere puff.

Hahnemann, nearly ninety years of age, now resides in Paris, where he has erected the standard of homœopathia, and

"3. He always exhibits medicines without any admixture, which might disturb their action.	"3. He exhibits several substances at the same time, which will reciprocally destroy one another, or produce an uncertain and irregular effect.
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"5. He does not spill the blood and animal fluids; nor does he torment the patient with blisters, moxa, &c.	"5. He spills the blood and other animal fluids, and torments the sick by painful irritants which enfeeble and retard the healing powers of nature and exhaust it.
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patiently waits the fulfilment of the prophecy which he uttered many years ago, *that from France would issue that general impulse which would render his discovery popular in all parts of the world!* Long may the monomaniac live to enjoy the fruits of his labors, and may France, rather than the United States, become the theatre of his disciples. S. D. G.

Art. VI.—Diseases of the Uterus.

A Treatise on the Functional and Organic Diseases of the Uterus. From the French of F. Duparcque, Docteur in Medicine de la Faculte, &c. &c. Paris. Translated, with notes, by Joseph Warrington, M. D., of Philadelphia. 1837. 8vo. pp. 455.

In entering upon an analysis of the work whose title is prefixed to the present article, it may not be amiss to apprize the readers of our journal, that it emanates from a country where the restrictions imposed in our own upon the investigation of uterine diseases, by female delicacy, (a delicacy which, however much it may interfere with the accuracy of our disagnosis, we are nevertheless constrained to respect,) are almost unknown, or at least, are rendered inoperative; and where, too, the greatest facilities are enjoyed for testing the correctness of pathological observations upon the living subject, by unrestricted dissections of the dead. The work is moreover the production of an eminent and practical physician, whose knowledge and experience in this department of obstetrical practice, as embodied in the volume before us, obtained for him the prize offered by the Royal Society of Medicine, of Bordeaux, and at the same time its high commendation.

Ushered into the world under circumstances so auspicious and so flattering, we could not hesitate to give to the treatise the tribute of a few pages, even though in our judgement it did not fully realize the exalted expectations excited by the splendor of its *accouchement.* But, besides these considerations,

which are in themselves sufficient to arrest the attention of the professional reader, and to constitute our apology for this intrusion upon his time, we are not without other motives to animate us in the task we have undertaken. Among these, we may be permitted to advert, as the most influential, to the hope we entertain that our labor may be the means of awakening Western physicians to a more diligent and discriminating study of a class of affections which, regarding their immense influence upon human happiness and human life, are most shamefully and criminally neglected in our country.

The work is divided into two parts. The first is devoted to a cursory examination into the origin, predisposing and determining causes of "chronic alterations" of the uterus—their mode of production and developement—their respective degrees of curability—and the means of ascertaining these alterations. The second part treats more particularly of the chronic diseases of the uterus, which comprehended by our author, under the general terms of engorgement and ulceration, are divided into a variety of species ; a classification which, however, we need not further pursue at this time, since in the progress of our analysis, we shall have occasion to recur to its most minute subdivisions, and under each to indulge in such explanatory and critical remarks, as may seem to us proper for enforcing truth or correcting error.

M. Duparcque sets out with the general proposition that the uterus is not "very susceptible of diseases, either acute or chronic before puberty." This want of susceptibility to morbid action is readily explained, by the disproportionate and unequal development of the organ in infancy and adolescence, compared with other parts of the animal economy ; by its feeble vital endowment ; by its isolated condition, neither receiving from, nor exerting upon the other organic apparatus of the system any other than a very feeble influence ; and lastly, by its anatomical position which exempts it from the operation of mechanical, physical, and chemical agents." But if these causes give to the uterus a remarkable immunity from disease in early life, the physiological changes which take place about puberty, expose it to a multitude of morbid actions, whose bit-

ter fruits, however, are sometimes not experienced, indeed seldom are, till the woman has passed the grand climacteric of female existence, and is descending into the vale of life. Not to say any thing of the great augmentation of the vital powers of the uterus at puberty, of its increased sensibility, or of its numerous sympathetic relations, as sources of disease, we need only recur to the state of the circulation in the organ at this time, to enable us to comprehend at once how many of the uterine affections of early life, such as congestions and inflammations, are induced, and the foundations laid for more serious and graver maladies, in subsequent existence. On this subject our author remarks—

"In the early periods of puberty, the uterus is not always in a condition to emit the fluids that give rise to the menstrual movement in its tissue. In consequence of which, a local plethora or congestion occurs, manifested by a sense of heaviness in the hypogastrium, more or less severe pains, denominated uterine colic or uterine tenesmus, alternate chills and flushes, head-ache, difficult respiration, and sometimes hysteric fits.

This fluxionary movement having existed a few hours or days, subsides spontaneously without any discharge; it re-appears with the same symptoms at the following menstrual period, until the exhalent extremities of the vessels becoming more permeable, readily disgorge themselves.

In some girls, however, this state of things continues through an indefinite period; the congestion of the uterus does not completely pass off after each period, but becomes increased, the local and general disturbance acquires intensity, and medical aid is required to prevent the dangerous consequences of this morbid state.

The engorgements of the uterus may under these circumstances, take on the form of simple congestion, of acute, and particularly chronic inflammation, which may successively or simultaneously pass through all the stages of suppuration, or cartilaginous or osseous degenerations. Restricted in the degree of its action, this engorgement becomes the basis of cancerous formations in the course of some years."

As illustrative of these general views in respect to the origin of organic affections of the uterus, our author furnishes many cases, of which, however, it does not comport with the limits of a review to speak in detail.

The first is a case of emansio mensium, occuring in the person of a young lady, aged 15 years. Exhibiting the "exterior signs of puberty, the phenomena which prelude the catamenial discharge, were manifested for some months at irregular periods, but the secretion did not take place." After a persist-

ance of this state of things, the patient was at length, at the ninth period, seized with the symptoms of acute metritis; but these were readily subdued by the prompt employment of an active antiphlogistic treatment, which, however, was not effectual in establishing the function of the uterus. At each menstrual discharge, the girl continued to be harassed by pains in the loins and hypogastrium, which gradually becoming worse, were at length accompanied by oppressed respiration, palpitations, and occasionally by catalepsy. "Bleeding had been found to be the most useful remedy in preventing the increasing violence of the paroxysms."

Under the impression that marriage would correct "this morbid condition of the uterus," the young lady entered into the connubial state at the age of twenty; but instead of deriving the anticipated relief from this measure, the painful phenomena were all aggravated. At length, three years after the event to which we have adverted, our author was called to attend her.

"At this time, she could not stand erect, in consequence of the severity of pain in the loins, hips, groins, and the anterior part of the thighs. She was afflicted with the dyspnœa and cephalalgia; the pulse which beat 110, was hard and contracted; her countenance was flushed.

An examination per vaginam, enabled me to discover that the neck of the uterus was short, thick, and confounded with the body of the uterus, which could be felt through the vagina, in passing the finger around the neck; the uterus appeared to be as large as at two months of pregnancy; the mouth of the uterus was partially distended, and filled with a viscid matter. I could seize the fundus by applying the left hand above the pubes, and pushing the abdominal parieties towards the sacrum; it was regular in shape, and about the size of a goose egg. The pain was greatly increased by this examination, and the patient was seized with a paroxysm of hysteria."

The case thus detailed is instructive in several points of view. In the first place, it demonstrates, along with others which are related by M. Duparcque, that virgins, as well as matrons, are occasionally the subjects of organic alterations of the uterus, though, as he subsequently remarks—"these changes, in the former case, affect the entire substance of the organ, while, in the latter, they are for the most part confined to the mouth and neck of the uterus."

In the second place, we are admonished of the error of regard-

ing amenorrhœa as an idiopathic disease dependent upon uterine debility, and requiring local stimulants for its removal. As, in the instance before us, it is usually but the symptom of a pre-existing malady, and until we learn to discriminate its causes, and to detect the associate states, whether of the system or of the organ, our practice will be empirical, and, to say the most of it, attended by an equal chance of failure as of success. Menstruation may be considered as consisting essentially of two parts;—a fluxionary movement, by which blood is determined to the uterus; and an exhalent or secretory process, by virtue of which the menstrual fluid is elaborated. Now it is evident that the healthy performance of the menstrual function depends upon a due correspondence or relation between these two movements; and hence, when amenorrhœa is associated with acute or chronic engorgement of the womb, we can no more expect to produce a healthy catamenial flux by means which determine blood to the uterus, than we can hope to produce the elaboration of a healthy chyme by accumulating food in a crippled stomach. As in the latter case, the cure must proceed upon the abstraction of nutrient materials to the reduced powers of the stomach; so in the former, relief must be sought by the judicious employment of all the means which are calculated to reduce the sanguine remora of the uterus. In these cases, instead of endeavoring to goad on the organ by indulgence in venery, or by other local excitants, which, under the denomination of emmenagogues, are presumed to exert a special action upon the genital apparatus, we should place our reliance upon a systematic and persevering antiphlogistic course, proportioned to the intensity of the congestion. Blood-letting, general or topical, cathartics, antimonials, baths and emollient fomentations, are the appropriate remedies; and of their efficacy, under the circumstances stated, many of the cases of our author furnish the most irrefragable proof.

To detail these, we repeat, forms no part of our plan; but M. Duparcque's fourth case is so remarkable in many respects, that a condensed statement cannot but prove interesting. A girl, aged 15 years, had menstruated regularly for several months. But, at each period, she suffered excruciating pains

in the hypogastrium, antecedent to the flow, which always brought relief, and was generally abundant for five or six days. In this state, she was suddenly alarmed "by an explosion in an adjoining chamber; an icy coldness pervaded her body, and was soon followed by violent agitation," pains in the abdomen, and suppression of the menses. A recurrence of her period brought with it additional suffering, but no return of her catamenia. Her health declined. Medical advice was obtained, but her symptoms becoming daily more alarming, M. Duparcque was requested to see her in consultation. Upon examining the abdomen, a tumor was discovered in the hypogastric region, behind the pubis, but somewhat inclined towards the right Iliac fossa. This tumour resembled in its position, form, and volume, the gravid uterus at three and a half months, and was very hard and sensitive, so much so, that the slighest pressure upon it was painful. "In the left Iliac region, there was another oblong nipple-like tumor, dipping deeply into the pelvis. Pregnancy was suspected, a suspicion which seemed to derive some confirmation from the reluctance of the patient to submit to an examination. It being difficult to pass the finger into the vagina, an attempt was made to explore the uterus through the rectum; but this, too, failed, in consequence of the intestine being blocked up with indurated fœces. With these obstacles to an accurate investigation of her case, the patient presented the symptoms of synochal fever. Sixteen ounces of blood were abstracted from the arm, and the fœcal matters were removed from the rectum by the handle of a spoon, after which copious dejections were procured by castor oil.

On the next day, the abdomen was soft, and the tumor in the left Iliac region had disappeared, whilst that in the hypogastrium had not diminished in volume, but had in some degree changed its relations by falling more under the linea alba, and sinking into the pelvis.

The introduction of the finger into the rectum, and the application of the other hand upon the hypogastrium, satisfied M. Duparcque that this tumor could be no other than an enlarged uterus. The question now arose, as to the cause of this enlargement. There were many, and almost insuperable objec-

tions to the presumption of pregnancy; and in the fact that she had menstruated regularly, was found positive demonstration that the augmentation could not be owing to retained menses, in consequence of occlusion of the os tincœ, or an imperforate state of the hymen. The inference was therefore strong, that the tumor arose from an engorged state of the uterine tissue, which, though partaking at first of the character of chronic, had now all the marks of acute inflammation—such as pain and great sensibility under pressure.

Guided by this pathological view, the patient was ordered to lose 12 ounces of blood from the arm; next day 20 leeches to the lower abdomen, followed by emollient cataplasms, which, with baths and laxatives, were continued for four days. At this time the tumor was very much reduced, and the condition of the patient altogether improved, being free from nausea and fever, and almost from pain—twelve leeches and continuance of the other remedies with very light fluid diet.

At the expiration of ten days more, the tumor could scarcely be felt. The menses soon after made their appearance, and the patient's health was perfectly re-established.

We have selected the above case, not as exemplifying the treatment alone, but as combining several peculiarities of interest. The profession has been long familiar with the fact, that pregnancy is often simulated by distension of the uterus, in consequence of the confinement within its cavity of menstrual blood, but that the organ in the virgin state ever attains such an increased volume, by simple sanguine engorgement of its tissue, as to perplex the diagnosis, is not, we think, generally understood by medical men; and M. Duparcque, in bringing the fact to their notice, and thus revealing another reason against hasty and inconsiderate deductions to the prejudice of female character in a most sensitive point, deserves to be esteemed as a benefactor to science and to humanity. There is still another peculiarity in the case, which strongly illustrates the duty of careful, diligent and patient inquiry in all our pathological investigations. The accumulation of fœcal matter in the sigmoid flexure of the colon, was a circumstance well calculated to embarrass the diagnosis of an inexperienced practitioner; and if it did not perplex the judgment of our author, it was owing to his enlarged experience, inculcating a lesson

of caution, which, though inscribed on every page of medical history, is seldom acquired except through disastrous mistakes.

M. Duparcque avails himself of the two succeeding cases to dwell at some length upon the etiology of uterine congestions. In his view, coition, "by its abuse or by its use in certain conditions of the female system," may create or perpetuate uterine engorgements, of which "the only appreciable phenomena are derangements of the *menstrual function*," and sterility. In the treatment of this state, it often happens that the mind of the medical attendant, being pre-occupied with the resulting phenomena, overlooks the primary derangement; and his efforts to reinstate the uterus in its functions, are limited to the employment of emmenagogues and local stimulants—a practice which too surely confirms the maladies it is intended to relieve, and lays the foundation for the developement, in the progress of time, of more profound organic alterations. In these cases, the only rational practice consists in a "complete abstinence from sexual intercourse, in the adoption of a mild regimen and anti-phlogistic means." A rigid perseverance in this course, aided by whatever may contribute to an equilibrium of the functions of the system, and thus diminish indirectly abnormal excitement in the uterine apparatus, will very generally resolve its congestion, remove the amenorrhœa or dysmenorrhœa dependent upon it, and restore to the organ the power of conception.

It is the same neglect to refer diseases to their ultimate causes, which has led physicians to recommend matrimony for the cure of hysteria. This is an affection, which every day's experience assures us, our predecessors were right (very generally at least) in referring to a uterine origin. It may be the result of functional disorder, (a view too generally adopted,) or of an altered condition of the organ associated with engorgement or sanguine excitement. When dependent upon the latter cause, the excitation of the genital organs by connubial intercourse or stimulating emmenagogues, is mischievous, and founded upon rank empiricism. Of the correctness of these pathological and therapeutic views, the sixth case of our author furnishes indubitable and almost conclusive evidence.

But to return from this digression, we conclude with our author, that "masturbation" or coition, "by the repeated and

permanent excitation which it awakens in the generative organs, makes them a centre of determinations, and thus may cause chronic engorgements, manifested only by "menstrual disorder," deprive the uterus of its power of conception, and lay the foundation for the more tardy appearance of profound organic alterations." But it is not by excitement or mechanical irritation alone, that coition becomes the cause of uterine affections. The venereal virus which usually expends its force upon the external organs, "sometimes immediately attacks the neck of the uterus," and developes there various organic changes, "such as engorgements, ulcerations and vegetations."

Fruitful, however, as is this source of uterine disease in married life, conception in all its consequences, according to M. Duparcque, is a much more prolific cause.

"The organization and vitality of the uterus are susceptible of new modifications. Its tissue becomes expanded and more permeable to the increased determination of fluids into it; the exhalent orifices are devloped to establish a more ample communication between the uterine vessels and that of the placenta; and lastly, the organ acquires the power of rapidly contracting itself.

"Although the separation of the parieties of the uterus for the developement of the product of conception, depends upon a sort of inherent expansibility, it is not always readily disposed to effect this extension; this indisposition, occasions in the course of the gestation, bearing down or dragging pain, and disagreeable tension, which are soon followed by abortion. Young ladies are most exposed to this accident, and we are assured that the greatest number of abortions or miscarriages occur in first pregnancies. It frequently happens that the first abortion is succeeded for a long time, or perpetually, by a difficulty in menstruation and a consecutive sterility. Numerous cases have proved to us that these functional disturbances result from a chronic inflammatory engorgement of the uterus or of its neck only, which is susceptible of cure. Some cases of uterine cancer, not observed till after the cessation of the menses, have proved to us, that these diseases took their origin in a first and only abortion, after which the menstrual function had been disordered, and the woman subjected to more or less severe, protracted and constant pains in the loins, etc.; all—symptoms denoting a morbid state of the uterus.

"Indulgence in copulation, and the neglect of hygienic and therapeutic precautions after abortion, doubtless contribute in no small degree, to maintain the chronic inflammation, occasioned both by the distention of the uterus beyond its intrinsic expansibility, and by the painful contractions brought on for the purpose of expelling the product of conception.

"Premature delivery, when it has been laborious, is a much more prolific cause of acute, though more frequently chronic affections of the uterus, than parturition occurring at full time. The neck of the uterus first feels the effect of these lesions; it is also the part of the organ most apt to be affected in the lying-in, in consequence of the pressure it sustains between the head of the infant and edge of the superior strait, the violent and forced distention in a too rapid labor, by

imprudent manœuvres, as the introduction of the hand for the purpose of turning the child, or the application of instruments, causing contusion and laceration of the sides of the orifice.

"The violent application of the parieties of the uterus upon the body of the infant, when the contractions are very energetic, especially when the liquor amnii has been prematurely discharged, the irritation from turning the child in the cavity, the forcible extraction of the placenta, before its separation from the sides of the uterus; the manœuvres of the hand in an attempt to detach and extract it, the mechanical and medical means employed to excite the contractions of the uterus when in a state of inertia, and to arrest hemorrhage, etc., are so many causes, capable of irritating the uterus, and exciting congestions, inflammations or engorgements, either in the whole, or a part of the body of this organ: these consequences more readily arise from the persistance of the humoral and vital determinations which are necessary to the development of the product of conception. This congestive action bearing a strong resemblance to the menstrual molimen, may be much more easily disturbed by similar causes, whence analogous but more intense morbid effects result. In fact, every thing capable of arresting the discharge of the lochia, without arresting the determination which furnishes the materials, becomes the cause of congestive or inflammatory engorgement of the uterus. Such are the impressions of cold, the rigors of an intermittent, and moral emotions of various characters."

As an occasional effect of the engorgement of the uterus consequent upon delivery, our author takes a passing notice of prolapsus uteri, and delivers a very important caution in regard to the use of pessaries in the congested condition of the organ; a caution which we should have supposed, was unnecessary, had we not been informed by him that "he had frequently seen the unfortunate mistake committed by physicians of celebrity. In our country, we venture to say, there is no student of medicine who had attended a single course of lectures, but would blush at the presumption of such ignorance, and certain we are that there is no patient who would submit to the excruciating tortures of such practice. Emollients, resolvents and rest, constitute the only rational treatment of such a case. In regard to the opinion combated by M. Duparcque, that pregnancy effectually cures prolapsus of the uterus, we are not prepared to assert that it is maintained, by any respectable authority within our reach, in the unqualified manner in which he announces it. But that it often affords temporary relief, is a very general sentiment in the profession, and is explicable upon a very obvious and intelligible principle. Coincident with this opinion, is our own experience.

Of the power of the *misnamed* "critical age" over the

female economy, we have long thought that erroneous and exaggerated notions were entertained and promulgated by many medical writers; and, in this opinion, we are happy to have the distinguished support of M. Duparcque. That the fears entertained by women in regard to the cessation of the catamania are more imaginary than real, is sufficiently manifest to our mind from an inspection of the statistical tables of Moret, Finlaison and Chateauneuf, which prove that as many men as women die between 40 and 50 years of age.

"It is improper," says the author, "that we should indiscriminately ascribe to the critical age, all the diseases which are manifested at this time. It should be borne in mind, that a great many of the alterations considered as resulting from the cessation of the catamenia, have originated at an anterior period; the "turn of life," merely developes these affections, changes their character, or accelerates the successive transformations of which they are susceptible.

"In a very exact history taken from 40 women, between the ages of 40 and 50 years, who were affected with cancer of the uterus, only five were found in which the disease was of recent origin, or had resulted from the critical period; in 33 others, the catemenia had exhibited some irregularities since their last confinement, or after an abortion, or in consequence of one of whatever causes we have seen capable of exciting them in women, which the dysmenorrhœa and the constant sterility, and other symptoms developed in the region of the pelvis, indicated some alteration in the uterus, which had immediately succeeded accouchment, abortion, or an accident,"

And finally, in two cases which are cursorily narrated, the affection appears to have originated "about the period of puberty."

"It may therefore be established as a general position, that the critical age is dangerous only to those women who arrive at this period with an alteration in the uterus already existing, and originating at a time more or less remotely anterior.

"When the critical epoch has passed without accident, or when those diseases which were at that time manifested, have yielded either to time or to appropriate remedies, the constitution of the woman seems to approach that of the man, she acquires organic force and vital resistance. The uterus has then completely returned to its primitive inertia, and the woman experiences an exemption from all diseases which are not common to the other sex. With very few exceptions, the uterus is no more subject to organic changes, than any other portion of the system.

"Those organic alterations which are developed in the uterus in aged women—or which having been developed at a period more or less anterior, and have not received an unfavorable impulse from the critical period, are slow in their progress; and notwithstanding the frequently considerable organic disorders which constitute them, they do not exert any conspicuous action on the general health. The uterus in discarding its functions, has at the same time lost the influence which it exercised over all the economy; and the diseases which afflicted it, do not radiate to any other parts."

In confirmation of the doctrine contained in the last paragraph, two cases of severe organic disease of the uterus are related, in which there was not only no symptom to indicate the existence of such affection, but no material derangment of the general health. The subjects of each passed through a long life, and ultimately died of other disease.

M. Duparcque next treats of the formation, development and termination, of "the organic alterations" of the uterus. The sanguine engorgements, in common with every other person, he considers to have their primitive seat in the capillary vessels of the womb, and so long as the blood is confined within the vascular tubes, they are susceptible of *resolution;* and this he regards as a practicable event, even when the blood has transcended its healthy limits, and has exuded into the parenchyma of the organ, "provided the original structure maintains its integrity." "When the tissues are destroyed, or profoundly altered as in inflammation with carnification in the highest degree of congestion, a reduction to the normal state is impossible."

Two elements enter into the composition of all indurated schirrous and cerebreform productions; the one an organized cellular net-work, the other a matter deposited in its meshes. The first, or cellular, is the original elementary tissue common to all "organic alterations," and it is for this reason that schirrus, fungus hematodes and melœna, present the same individual but distinctive characters, no matter in what organ or tissue of the body they happen to be located, whether "in the skin or subcutaneous cellular structure, in the stomach or the epiploon, the liver, lungs, spleen, or uterus." The second element or adventitious matter is the product of an "abnormal vital elaboration." It does not exist in the blood already formed, but is fashioned, as it were, from this fluid, by a process similar to that which produces the normal, or healthy tissues of the economy." The natural growth of the body and the development of its parts, hypertrophy and schirrus are equally the product of a secretory action; with this difference, however, that in the latter disease, as well as in all others formed by the deposition of heterogeneous matter, the vitality of the secreting apparatus is so altered that it is no longer capable of selecting from the blood the elements proper to itself,

but only those, "the combination of which constitutes the morbid growth."

By some pathologists, this alteration in the secerning tissue is presumed to partake of the character of inflammation, but of inflammation changed and modified by peculiarity of the constitution or of the part. In favor of this hypothesis, it is alledged, that the causes which give rise to the development of the accidental tissues under review, are the same which excite inflammation, and that the remedies which have been found most effectual in their treatment, are also such as subdue vascular action. Notwithstanding, however, the speciousness of this reasoning, it must be admitted that these morbid depositions do occasionally take place without previous inflammation, and in the midst of healthy structures without the operation of any of those causes which produce the latter disease. But whatever is the character of this peculiar vital modification, it is certain that it displays itself chiefly in middle age. Advanced life overcomes it; and therefore—

"We very rarely see cancerous affections of the uterus originate in old women; the cancerous diathesis is more rare at that time of life, and when these alterations, developed at an anterior period of life, have passed over a certain space of time without destroying the patient, we sometimes see them diminish, progress more slowly, or else pass through all the local degenerations without materially changing the health of the women who are affected by them."

These views and the results of operations for cancers practised for a number of years in the Parisian hospitals, going to show that relapses are less common in proportion as the patient is advanced in life, have led our author

"To conclude, that far from urging to the early practice of the operation, it would be better to wait until the disease had, so to speak, spent its action upon the impaired organ. In delaying the operation, we permit the patient to acquire the age in which the vital or organic modifications, which constitute the predisposing essential conditions of the cancerous alterations, change and dissappear, and the disease henceforth confined to the part which it had attacked, will not be subject to relapse."

Of the soundness of this advice, we are very dubious, and until it is sustained by multiplied facts and enlarged experience, we prefer to rest upon the ancient canons of the profession, and to recommend early extirpation of all cancerous tumors.

[To be continued.]

MISCELLANEOUS INTELLIGENCE.

ANALECTIC, ANALYTICAL, AND ORIGINAL.

1.—ANALECTIC.

AD SYLVAS NUNCIUS.

1. *Some experiments and observations on tying the carotid and vertebral arteries, and the pneumogastric, phrenic, and sympathetic nerves.* By Sir Astley Cooper, Bart.—The anastomosis of arteries in all parts of the animal frame, and the circuitous channels through which the blood, when arrested in its progress along a principal trunk, is conveyed to its destination, have been for some time well ascertained; and the advantages arising from this arrangement of vessels in the natural condition of the body, as well as the safety afforded by it under certain accidents, diseases, and operations, are perfectly understood.

The existence of these anastomising vessels has been proved, by the examination of diseases in which blood-vessels have been obliterated, by experiments performed upon the arteries of living animals, and by the result of surgical operations upon the human subject, and the dissections after death; and the injected preparations contained in our anatomical museums exhibit, for the principal arteries of the body, the place at which the main trunk has been rendered impervious, and the mode in which the circulation has been preserved.

In the chest, the aorta has been obliterated by disease, and the intercostal arteries have supplied its place in carrying on the blood. In the abdomen, the aorta has been entirely obstructed by an aneurism situated above the bifurcation; the two iliacs below being reduced to mere cords. The common iliac has been successfully tied by Mr. Guthrie; and the internal iliac by Mr. Stevens. The external iliac, and the arteries below it, have been now so frequently tied, and the anastomosing vessels so clearly demonstrated, that no doubt is entertained of an adequate supply of blood being sent to the lower limbs after these operations.

The subclavian arteries have but few anastomoses; but they are still sufficient to nourish the upper extremity; and the arteries of the arm

below may be tied without danger of an insufficient supply by subsidiary currents.

The carotid arteries have been found, by Baillie, obliterated by disease. That artery has been now frequently tied on one side of the neck; and it has even been secured, at distinct periods, on both sides of the neck of the same person: and in these cases the current of the blood has still flowed freely into the remote branches.

Still, however, the intimate connexion between the functions immediately essential to life—of the brain and other organs, and the necessity for a due supply of blood for the maintenance of cerebral action, gives to the vessels of the head extreme importance in the eyes of the surgeon and physiologist, and justifies him in pushing his inquiries respecting them to the utmost limit.

It will be seen that some animals die immediately from interrupting the circulation in the carotid and vertebral arteries; but that others survive the experiment, and give an opportunity of ascertaining the means of anastomosis.

Ligatures placed upon the vertebral and carotid arteries of a dog. On the 28th of January, 1831, I tied the right and left vertebral and the right and left carotid arteries of a dog, and all was completed within half an hour. The animal appeared insensible, or as if it were intoxicated; it had difficulty in breathing; its pupils were dilated; its volition was diminished: and it ran against the leg of the table, or any other body, without seeing or regarding it. When placed upon its legs, it fell down on its right side, and had spasmodic twitchings of its hinder extremities. At the expiration of a quarter of an hour, it was still insensible; it had shiverings, although placed near the fire; it rested its head upon the ground on the right side; its respiration was still laborious ; and its pupils were dilated. After an hour and a half, however, it was able to stand, and, although with difficulty, to stagger around a small room.

On the 29th, it was dull, and indisposed to move. On the 30th, it was much the same, and not inclined to move or eat. On the 31st, it walked round the room; and ate about an ounce of food, but would not lap. On the 1st of February, it was much better: it ate and drank; and from that time gradually recovered. It afterwards became a good house-dog; and I kept it for nine months, when it was killed, that I might inject it. The number and size of the anastomoses were very extraordinary. The description of them is as follows: The carotid artery on the right side was obliterated opposite the fifth and sixth cervical vertebræ: below the obliteration it is injected from the aorta; above the obliterated part it is filled with injection, (1) from the inferior thyroideal artery communicating with the superior thyroideal by large branches; (2) by a large descending cervical branch, dividing into numerous large anastomoses; and (3) by branches from the vertebral artery anastomosing with the external caratid artery on the first vertebra of the neck. The left carotid was obliterated from near its origin, but filled with injection above the obliterated part, by the inferior thyroideal artery communicating with the superior, and by the ascending cervical artery from the subclavian, by numerous and large anastomoses,

and by an œsophageal artery from one of the intercostals communicating with the superior thyroideal artery. The right vertebral artery was obliterated near its origin on the seventh cervical vertebra, but filled with injection above the obliterated part by two branches from the superior intercostal arteries, which passed, on the back of the spine, into the arterial canal of the vertebræ, at the fourth, fifth, and sixth intercostal spaces. The vertebral artery thus produced passed to the second vertebra of the neck, where it formed the basillary artery, and, in its course, had festoons or loops formed in it, as far as the first vertebra, at each intervertebral substance; and here, upon the transverse process of the first cervical vertebra, it formed communications with the carotid. The left vertebral artery was obliterated close to its origin, but was filled with injection by an anastomosing branch from the superior intercostal artery, which entered between the fifth and sixth vertebræ of the neck; and by a second branch, also, from the intercostal artery passing on the posterior surface of the transverse processes of the fourth and fifth cervical vertebræ; then, over each transverse process was a loop of arterial communication, forming down each side a beautiful display of festoons.

On a second occasion, I tied the left vertebral artery of a dog. I then secured the right vertebral; and after an interval of eight days I put a ligature on each carotid artery. The animal was weakened in its forelegs; but in other respects it suffered less than the former; and on the following day it took its food as usual. The right carotid was obliterated; the injection passed from the aorta to the obstructed part, and above it, by an anastomosing vessel from the vertebral, and by an ascending cervical artery from the right subclavian. The left carotid was obliterated, but filled with injection to the place of obliteration, from the aorta; and above, it was filled by an ascending cervical, an inferior laryngeal branch, and others from the vertebral. The right vertebral artery was obliterated opposite the seventh cervical vertebra, before it entered the foramen of the sixth vertebra; but above the obliteration it was filled by an anastomosis with the superior intercostal artery: it then ascended through the canal in the sixth cervical vertebra, forming beautiful festoons and injunctions with arteries passing over the vertebra, opposite each intervertebral substance, and joining, by anastomosis, with the carotid at the first vertebra of the neck. The left vertebral artery was obliterated at the seventh vertebra; but the artery formed anastomosis, one with the subclavian, and two with the superior intercostal. The artery on this side formed similar but larger junctions than the right, opposite to each intervertebral substance, in festoons or loops; and thus the vertebral artery was reproduced, and filled with injection from these vessels. The two vertebral united to form the basillary artery as usual, and joined with the internal carotids at the circle of Willis.

Where the basillary artery was first formed, anastomoses were sent to the carotid arteries on the transverse process of the first cervical vertebra.

The result of tying the carotid and vertebral arteries in the dog is such as I have described; but in the rabbit it is different, as in this animal the arrest of the blood in these four vessels is immediately fatal.

Besides the determination of this point, it was my object, in the following experiments, to ascertain the different effects which would be produced by tying separately the vertebrals and the carotids. The size of the carotid arteries, compared with the vertebrals, is much less in some animals than in man, in proportion to the inferior developement of the cerebrum; and the tractus respiratorius being supplied by the vertebrals, the current of blood in these arteries might be supposed to exercise an influence on the respiration.

Ligature placed on both carotid arteries.—In the first place, I applied a ligature to the carotid artery on each side of the neck. Little effect was produced; except, that the respiration was quickened for a few minutes, and the animal rendered dull and disinclined to eat during the day; but on the following morning it appeared lively, and ran about with its natural activity; so that it may be truly said, that these two arteries may be tied with very little change in the functions of the animal, excepting that the respiration is quickened; and this perhaps may be attributed to a greater quantity of blood being impelled through the vertebral arteries, in consequence of its interruption in the carotids.

Ligatures placed on both vertebral arteries.—I next placed a ligature around both vertebral arteries. When I had tied the first, there was some difficulty in breathing; but when I had tightened the second ligature, this difficulty was greatly increased. The respiration was at first slow, but it afterwards became quicker. The animal retained volition and sensation, but its fore legs were weakened.

At the end of two hours, its breathing was laborious; its ears dropped to the right side; its heart beat quickly; it was dull, and indisposed to move; and its fore legs were still weak. After four hours and a half, it ran about, but with its ears fallen: its respiration was slower. On the following day, there was a murmuring in its breathing, which was increased under excitement: its heart beat quickly and forcibly: its pupils were not dilated. On the second day, the respiration was slow and heaving; it had an irregular action of the heart; it was dull; and its heat was 102. In the evening, its respiration was irregular and heaving; but it moved about, and took food. On the third day it was dull: its breathing was slow: its heart beat quickly: it ate food. On the fourth day it appeared heavy, and indisposed to move. The action of its heart was quick and strong; its respiration was slow, but no longer stertorous. On the fifth day, its breathing was slow; it appeared dull and heavy; the action of the heart was still quick. On the sixth day, the respiration was laborious and slow, being only 64, instead of between 120 and 150, the natural number of inspirations in a minute; its heart beat rapidly, and not forcibly; it was very dull, and indisposed to move; it was getting thin, but took its food as usual. On the seventh day the animal was found dead; and on the eighth I examined it, after injection, and found an abscess in the neck. The vertebrals had been well secured, and the brain had received injection by the carotid; the basillary and cerebellal arteries were filled from the circulus arteriosus. The animal's death may have been hastened by the abscess.

I have many times repeated this experiment; and it uniformly produces a marked effect upon the respiration, which it renders slow and laborious. The fore legs are weakened; and a much more severe effect

is produced upon the animal than when the carotid arteries are obstructed; insomuch, that it will rarely recover from the operation.

The carotids first tied, and then the vertebrals.—The next step was, to ascertain the effect of arresting the blood in the vertebrals, after the carotids had been secured. I tied the carotid arteries; the respiration and circulation became quicker; volition and sensation remained in all their activity. In twenty-four hours, the animal appeared very lively, but its breathing was quicker than natural. After forty-eight hours it breathed less quickly; it ran about in a lively manner; and it ate heartily. On the third day it was difficult to catch; on the fourth, fifth, sixth, seventh, and eighth days, it appeared to be in a natural and healthy state; and on the ninth I exposed the vertebral arteries, and found them obviously enlarged. A ligature was tied upon each of these vessels. The respiration stopped immediately; and the animal appeared dead; but it afterwards made seven gasps, from convulsions of the diaphragm; its hinder extremities became also convulsed; but in a minute, all voluntary motion ceased.

On opening the abdomen and chest, it was seen that the peristaltic motion of the intestines remained; and the heart continued to act for a few minutes after apparent death.

This experiment shev ow little the functions of the brain depend upon the carotids, and ow much upon the vertebral arteries.

Carotids tied—vertebrals compressed.—As tying the vertebral arteries is a difficult experiment, it occurred to me that I might compress them with my fingers, after tying the carotids, and produce the same effects. I tied the carotid arteries. Respiration was somewhat quickened, and the heart's action increased; but no other effect was produced. In five minutes, the vertebral arteries were compressed by the thumbs, the trachea being completely excluded. Respiration almost directly stopped; convulsive struggles succeeded; the animal lost its consciousness, and appeared dead. The pressure was removed; and it recovered, with a convulsive inspiration. It laid upon its side, making violent convulsive efforts; breathed laboriously; and its heart beat rapidly. In two hours it had recovered; but its respiration was laborious. The vertebrals were compressed a second time. Respiration stopped; then succeeded convulsive struggles, loss of motion, and apparent death. When let loose, its natural functions returned, with a loud inspiration, and with breathing excessively laboured. In four hours it was moving about, and ate some greens. In five hours the vertebral arteries were compressed a third time, and with the same effect. In seven hours it was cleaning its face with its paws. In nine hours the vertebral arteries were compressed for the fourth time; and with the same effect upon its respiration. After thirteen hours it was lively. In twenty-four hours the vertebral arteries were compressed for a fifth time, and the result was the same, viz. suspended respiration, convulsions, loss of motion and consciousness. On the removal of pressure, violent and laborious respirations ensued; and, afterwards, the breathing became very quick. After forty-eight hours, for the sixth time, the compression was applied, with the same effect.

Thus it appears, that if the carotid arteries are tied, simple compression of the vertebrals succeeds in putting an entire stop to the functions of the brain.

Vertebrals tied—carotids compressed.—I then reversed the preceding experiment, by impeding the current of blood first in the vertebral arteries. I placed a ligature tightly around the vertebral arteries. The respiration became immediately laborious; its right ear fell, and the right fore leg was partially paralyzed. In one hour it was indisposed to move; its respiration was slow and laborious; and its right fore leg in a great degree recovered. Its sensation remained; but its volition was less than before the experiment; it smelt at the food offered, but would not eat it. In three hours green food was placed in its mouth, which it ate. In five hours it was running about; but its right ear remained in the same situation. On the following day, its respiration was slow, and it appeared dull. I pressed, with my thumbs, the carotid arteries on each side of the larynx, which was left free. It fell upon its side; it lost all sensation and volition; and its eyes were drawn back. Upon removing the pressure, it soon recovered. On the second day, its respiration was quick; its ear much risen; its fore leg less paralytic: it sat up; and moved from place to place. A second time I compressed its carotids. Its eyes were drawn back; it was convulsed; and its respiration was quick and laborious; and it was affected in the same way as on the preceding day, but in a less degree. On the third day its respiration was hurried, and 150. For the third time I compressed its carotids. It fell upon its side, and was insensible; but soon recovered, and ran about. On the fourth day it was dull, and its respiration was laborious; it ate some green food. In the afternoon of this day, it became very dull, and refused the food placed before it; and on the morning of the fifth it was found dead.

I injected this animal with coarse injection; and, upon dissection, it was found that abscesses had formed around the ligatures. The vertebral arteries were fairly tied, and the carotids greatly enlarged, but they were compressed by the abscesses. The injection had entered the cranium by the internal carotids, but not by the vertebrals; nor was there any injection in the basillary artery by the circle of Willis.

Carotid and vertebral tied on the same side.—On another occasion, I tied the carotid and vertebral arteries on the same side; the breathing became laborious, and the fore leg was partially paralyzed. I subsequently compressed the vessels on the other side, with the usual effect of producing apparent death: but the pressure being removed, the animal recovered; and at the expiration of eighteen days it was quite well, excepting that it had a difficulty in breathing under excitement. It was then killed and dissected. The arteries had been securely tied. It appears, then, that the obliteration of one carotid and one vertebral, on the same side, does not produce a fatal effect.

Vertebral and carotid arteries tied at the same time.—In order to cut off at once the several currents of blood to the brain, I tied at once both the vertebral and carotid arteries. The animal breathed no more; but there were thirteen or fourteen convulsive contractions of the dia-

phragm, and convulsions of the hinder extremities, and the animal ceased to exist.

This is a most decisive experiment; shewing the effect of the arrest of the blood in the vessels of the brain, in stopping respiration, volition, and sensation; and the result is striking and immediate.

The same effect of interrupting the streams in the vertebrals and carotids was produced in an equally conspicuous manner, without the application of ligatures, as follows. The animal was held in a convenient position, with its neck extended, and its head thrown back. I then applied my thumbs, so as to compress, at the same time, the two vessels on each side, taking care to leave the trachea entirely free from compression. Respiration ceased in a few seconds; some struggling then took place, and the animal appeared dead. The pressure being then removed, the respiration was completely suspended; but artificial motion being given to the ribs, the animal gasped, began to breathe quickly, and recovered.

I also put a ligature around the neck, close to the sternum, so as to compress the carotid and vertebral arteries; but the trachea was excluded, by passing the ligature behind it. Although the trachea remained free, as soon as the ligature compressed the carotid and vertebral arteries, breathing ceased, and all the functions of the brain were destroyed,

Before I would venture to draw conclusions from the experiments above detailed, I was desirous of convincing myself that no injury done to the nerves could have influenced, in any material degree, effects which had been observed. I proceeded, therefore, to investigate the consequences of applying ligatures to the principal nerves of the neck.

Ligatures placed on the pneumogastric nerves.—In the first place, I put a ligature on each pneumogastric nerve. The animal's breathing became heaving and laborious, and fell from 150 to 48 inspirations in the minute: it was likewise accompanied by a stertorous noise: the heart beat feebly, but rapidly; food was refused. These symptoms continued; and on the following morning it was found dead. The same experiment was several times repeated, and the results were nearly uniform, the animals dying at the end of from nineteen to twenty hours.

In these experiments, it was likewise observed that the blood circulating in the arteries gradually assumed the venous colour, and that the animal heat at the same time decreased in a remarkable degree.*

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* These facts were carefully noticed in the following experiments.

EXPERIMENT 1, ON THE RABBIT. Respiration, 132 in a minute. Heat 104.

The pneumo-gastric nerve was tied on each side: the breathing became stertorous? the animal dull, and disinclined to move.

In 1 hour, respiration 48.
3 hours . . . 44.
4 . . . . . 56. Animal Heat 99¼ in the anus.
3 . . . . . 48. 93¼.

I opened the carotid artery, and blood of a venous colour escaped. I tied the artery.

The examinations after death exhibited the lungs gorged with blood, and looking like the liver; a fluid in the pleuritic cavity; the stomach full of undigested food; and the œsophagus likewise distended with it, in those cases in which the animals had taken food after the ligatures had been applied.

Ligatures placed on the phrenic nerves.—In another rabbit, I divided the phrenic nerves one after the other, in immediate succession.

The diaphragm being then paralyzed, the animal's respiration, which was performed by the intercostal muscles, instantly became excessively laborious. The ribs were heaved violently; and a much greater effect was produced on the respiration than when the vertebral arteries, the pneumo-gastric nerve, or grand-sympathetic, were tied.

In a quarter of an hour it lay upon its side, making great efforts with its intercostal muscles; and sometimes it stopped, as if fatigued, and then again commenced. In twenty minutes it was dead. On examination the phrenic nerves were found to be completely divided.

The heart's action, and the peristaltic motion of the bowels, were observed for a short period after apparent death.

In this experiment, respiration was rendered difficult, by obstruction to the mechanical apparatus destined to provide the necessary supply of fresh air; whereas, in the former, the difficulty arose from the failure of those processes which in health are carried on within the lungs; and may we not thence infer, that the changes of the blood are not chemical alterations merely, but dependent also upon the vital agency of the nerves and blood-vessels?

In 11 hours, respiration . . . . . 36. Animal Heat 93.
12½ . . . . . laborious, and 30. . . . . 9¼ to ½
12 . . respiration the same. . . . . 89.
The rabbit died at this time, and the heat of the abdomen was 88½.

Examination. Lungs loaded with dark blood: water in each cavity of the pleura: food in the œsophagus: stomach loaded with food.

EXPERIMENT 2. The pneumo-gastrict nerves tied. Respiration 135 before the experiment, Animal Heat 102.

In 1 hour respiration 48. Animal Heat 99.
3 hours . . . 39. . . . . 99.—(Stertor, or moaning, under excitement.)
4 . . . . . 33. . . . . 98½.—(The animal dull, and disinclined to move.
6 . . . . . 36. . . . . 96: cold to the touch,
In 12 hours respiration 36. Animal heat 97½.
14 . . . . . 32. . . . . 95½.
16 . . . . . 28. . . . . 93.
16¾ hours the animal died. It heat 87 in the abdomen at the time of its death.

The animal felt cold long before it died.

The gradual decrease of the animal heat, the dark blood circulating in the arteries, and the gorged state of the lungs after the application of a ligature to the par vagum, are interesting and important circumstances: and we are led to question, whether the lungs, by this operation, are deprived of a nervous or vital influence essential to the change of the blood; or whether this change is not produced in consequence of the slowness of the animal's breathing; for when the phrenic nerves have been tied, the blood also becomes dark in the arteries. In that case, however, the lungs are not found gorged by blood.

Ligatures placed on the grand-sympathetic nerves.—I now tied the grand-sympathetic nerve on each side. The respiration became quick and irregular; but sensation and volition were unaffected. The heart's action was very quick: there was a general trembling; but when the animal was put down upon the ground, it ate some greens. Its respiration continued irregular, and its heart's action very quick; and after eight days it was killed. The nerves were found well tied: one had already ulcerated below the ligature; the other was nearly ulcerated through; and the ligature was surrounded by suppuration.

In another rabbit, I tied these nerves; and the animal, although it is near a month ago, is still lively and active.

Ligatures placed on the pneumo-gastric, phrenic, and grand sympathetic nerves.—Lastly, I tied, in one rabbit, the pneumo-gastric nerve, the grand-sympathetic, and the phrenic. The respiration became laborious; the animal dull, and indisposed to move; and the heart's action feeble. The breathing continued excessively laborious for a quarter of an hour, when the animal died. Bloody fluid was found in the chest: the lungs were not much changed. In another similar experiment, the animal died in three quarters of an hour.

We see, then, that an animal with all these nerves compressed may live from a quarter to three quarters of an hour; that the ligatures on the pneumo-gastric kill in about twelve hours; and in the grand-sympathetic, that the animal will continue to live for a much longer period: so that pressure on these nerves, in the experiments in which the arteries were compressed by my thumbs, could not have been the cause of death.

The effect of tying the jugular veins of the rabbit is not constantly the same in all cases, as the following instances prove.

Ligatures placed on the jugular veins.—In one rabbit, I tied the jugular veins on each side of the neck. When it was set at liberty, it ran about, cleaned its face with its paws, and took green food.

Its respiration was reduced to 68 inspirations in a minute, which is about half the natural number. After four hours, it ran about as if nothing had happened, and eventually recovered.

When it was killed and injected, I found, on each side, three anastomosing veins passing from the anterior to the posterior part of the jugular vein, and conveying the blood from the head to the heart; but the vertebral vein had remained whole, and become enlarged; and it passed on the fore part of the vertebræ, from the head to the space between the fourth and fifth cervical vertebræ, where it entered the vertebral canal.

In a second rabbit, I tied the jugular veins on each side of the neck, as before. The animal's respiration became slow; but it ate green food, ran about, and was difficult to catch; but for five days after, it appeared dull; its ears had dropped. On the seventh day, it was seen to be convulsed, and frequently rolled over. Its voluntary powers were lost, as well as its sensation, in a great degree. On this day it died. On examination, a clot of blood was fonud extravasated in the left ventricle of the brain.

Hence it follows, that apoplexy will occasionally result from an obstruction to the return of blood in the jugular veins; and this I have

known to happen from enlargement of the glands in the neck of a boy.

Inferences drawn from the foregoing experiments.—It appears, from these experiments, that the carotid arteries are designed in these animals rather for the supply of blood to the external parts of the head than to the brain itself; whilst in proportion as the brain is more developed, the carotid artery acquires greater importance. The obstruction of it influences respiration in some degree; probably, because, under these circumstances, more blood is directed to the vertebral arteries. The internal carotid branches are proportionably less than in those animals which have a large cerebrum, and are endued with higher mental faculties.

It passes to its destination, to prevent the action of the heart from influencing the brain immediately.

The rabbit quickly recovers from the operation of tying these arteries, and seems little affected by it: and in man, as well as in these animals, these vessels are obliterated without the destruction of life.

The vertebral arteries are much more important vessels, as regards the brain and its functions in these animals,* than the carotid arteries. The nervous power is much lessened by tying them; and, in these experiments, the animal did not, in any case, survive the operation more than a fortnight; although I do not mean to say that recovery is impossible. In the dog, also, the carotids may be tied with little effect; but the vertebrals have a great influence.

The effect of the operation is, immediately to render breathing difficult and laborious, from the supply of blood to the phrenic nerves and the whole course of the tractus respiratorius of Sir Charles Bell being stopped. The animal becomes dull, and indisposed to use exertion or to take food.

Very slight injuries, after a ligature has been put upon these arteries, will destroy life; insomuch, that if they are first tied, even dissecting for the carotids, without tying them, will cause death. The best method, in such experiments, is to tie the vertebrals last.

On account of the importance of these vessels, they are securely defended by bone in the greater part of their course; and it is only below the sixth cervical vertebra that they are accessible. If they were exposed to pressure, death would often be suddenly produced.

These arteries are tortuous, to prevent too sudden a rush of blood to the head; and they pass through foramina of bone, which prevents any great increase of their size; although they become somewhat larger than before, when the carotids are tied, and *vice versa*.

Thirdly, compression of the carotid and of the vertebral arteries at the same time in the rabbit, destroys the nervous functions immediately. This is effected by the application of the thumbs to both sides of the neck, the trachea remaining quite free from the pressure; when respiration entirely ceases, with the exception of a few convulsive gasps.

The same fact is evinced in a clearer and more satisfactory manner,

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* Mr. Coleman informs me that the vessels of the horse are different; and he thinks it is designed to counteract gravitation, when the animal is feeding on grass.

by the application of ligatures on the four vessels, all being tightened at the same instant; when stoppage of respiration and death immediately occur.

When the dog is the subject of this experiment it loses its volition and sensation, and appears as if it were intoxicated; but the anastomosing vessels gradually restore the circulation by means of the other branches of the subclavian artery at the back and sides of the neck.

But, notwithstanding the decisive nature of the last experiment, conceiving that it might be possible that the pressure upon the nerves of the neck might have an influence in killing the animal suddenly, I made the experiments which I have detailed.

I first tied the pneumo-gastric nerves, and found that the animal lived about twelve hours, although it died on the instant when the carotid and vertebral arteries were tied: the lungs were also loaded with blood,* and twice as heavy as the healthy lung: it appears, therefore, that the change of the blood is either directly or indirectly under the influence of the par vagum.

In this experiment it is also to be observed, as a point of much importance, that the blood in the carotid arteries is found of a venous character, and dark blood circulates in the animal for some time before it dies, the blood being less arterial as the time elapses from the application of the ligature: yet the heart continues to beat; for when the artery is opened, the blood flows *per saltum.*

The blood also flows of a dark colour when the carotid is opened after the phrenic has been tied; but the lungs are not in that case found loaded with blood, but possessing their ordinary weight and appearance.

In this experiment there was also a remarkable diminution of animal heat. Is this to be attributed to a cessation of that pulmonary process, accompanied by the evolution of heat wherein venous is converted into arterial blood? or does it arise from a want of that supply of arterial blood to the nerves from which they derive a capability of evolving caloric? or shall we not approach still nearer to the truth, in supposing that both these causes of a high temperature are suspended at the same time; and that there is, consequently, a double reason for the gradual departure of the animal heat observed in this experiment?

The œsophagus contained food, in some instances in which the animal had eaten after the experiment, from its muscles being paralyzed; and the stomach was full, from the arrest of the digestive function.

This nerve, then, is most important; 1st, in assisting in the support of the function of the lungs, by contributing to the changing of the venous into arterial blood: 2dly, in being necessary to the act of swallowing: 3dly, in being very essential to the digestive process.†

The pair of nerves upon which I next applied ligatures were the phrenics. As soon as these were tied, the most determined asthma was produced; breathing proceeded by means of the intercostal muscles; and the chest was elevated to the utmost by them; and in expiration,

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* Sir Benjamin Brodie has mentioned this state of the lungs.

† A ligature on one nerve only does not destroy.

the chest was as remarkably drawn in. The animals did not live an hour: but they did not die suddenly, as they do from pressure on the carotid and vertebral arteries. The lungs appeared healthy; but the chest contained more than its natural exhalation.

When the grand sympathetic was tied, little effect was produced: the animal's heart appeared to beat more quickly and feebly than usual; but of this circumstance I cannot be positively certain, on account of the natural quickness of its action. The animal was kept seven days; and one nerve was ulcerated through, and the other nearly so, at the situation of the ligatures. The suppurative process was extensively set up around the ligatures. No particular alteration of any organ was observed on examination. Another animal still lives in which the sympathetic was tied nearly a month ago.

Lastly, I tied all three nerves on each side the pneumo-gastric, phrenic, and grand-sympathetic; and the animal lived little more than a quarter of an hour, and died of dyspnœa.

The sudden death, then, that takes place from pressure at the sides of the neck must not be attributed to an injury to the nerves, but it is owing to the impediment to the due supply of blood to the grand centre of nervous influence.—*Guy's Hospital Reports*. No. III. *Am. Jour.*

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2. *Physiological action of Iodine and Hydriodic Acid.* By Andrew Buchanan, M. D.—The effects of iodine on the animal economy have not been discriminated with sufficient care from those of hydriodic acid, although the two substances, considered as physiological agents, are just as distinct as chlorine and muriatic acid.

The physiological effects of iodine are exceedingly similar to those of chlorine. It acts as a corrosive irritant, exciting inflammation and combining chemically with the tissues to which it is applied. This simple local action is all that, strictly speaktng, can be ascribed to iodine, for there is not the least reason to suppose that it is ever absorbed and mingled with the circulating fluids in the uncombined state. The other effects which have been ascribed to iodine are either those of hydriodic acid, or they are secondary effects arising from the inflamed or ulcerated state of the alimentary canal,—which the iodine has produced. To the latter series of effects must be referred the whole of the fearful train of symptoms which have been described by toxicologists under the name of *iodism*, and have been attributed, but most erroneously, to the slow accumulation of the poison in the body. This conclusion appears to me to be fully warranted by considering, that while such symptoms have been observed to result from the use of iodine in forms capable of exciting local irritation, it has been ascertained by numerous trials made in the hospital and out of it, as well by myself as by various medical friends who have done me the favor to state the result of their observations, that no such symptoms result from the use of iodine divested by starch of its local irritant power. Many of the symptoms, too, which have been described, such as indigestion, pains of the stomach and bowels, emaciation, and febrile excitement, are of a kind very likely to result from the gastro-intestinal irritation; and with respect to the rest of them it is difficult not to entertain a suspicion that some of them at least

may have been admitted as effects of iodine from inaccurate observations. However that may be, I can only say, that I have never seen the use of iodine followed by wasting of the testicles or of the mammæ, by palpitations, faintness, excessive debility, hurried, anxious breathing, dinginess of the skin, copious clammy sweats, increased menstrual discharge, or an oily appearance of the urine, which are enumerated among the symptoms characterizing the supposed affection termed iodism. Some of the symptoms described, indeed—such as bilious diarrhœa, and a diminished secretion of the saliva, are the very reverse of the effects which I have usually observed to flow from the use of the preparations of iodine.

I go on to speak of the effects of hydriodic acid, which I think it does not admit of doubt ought to be regarded as the true medicinal agent, possessing the alterant virtues which have been ascribed to iodine itself. The hydriodic acid, in the concentrated state, is most probably, like the muriatic, a corrosive irritant, but by dilution with water it is completely divested of its irritant quality. In the diluted state, however, it is probably not without a local action on the alimentary canal. Most probably it acts as a tonic. At all events the analogy of the other mineral acids, in which tonic virtues are so generally recognized, warrants the opinion, as at least probable, that it is to the hydriodic acid that ought to be referred the tonic effects which so many observers have described as resulting from the use of iodine.

The hydriodic acid, whether prepared within the body, or introduced ready made, is an exceedingly absorbable substance. When given in doses equivalent to ʒij. of iodine daily, the whole of it appeared to be taken up and mingled with the circulating fluids. What are the fluids with which it mingles, and the secretions by which it is discharged? I have already mentioned, that when hydriodate of potass is given in a dose of ʒij., iodine is found abundantly in the blood in from four to six hours afterwards. I must also, however, mention, that when iodine is given in smaller doses, although the use of it be continued for a great length of time, no iodine can be detected in the blood on the most careful examination. Mr. Lumsden, to whose kindness and analytical skill I have to acknowledge my obligations, examined both the serum and crassamentum in several patients taking iodine in full doses, and in many of whose secretions it was contained in abundance, without being able to detect any trace of it, How to explain these facts I do not know, unless we are to suppose that iodine does not find its way into the sanguiferous system unless when given in such a quantity at once that the system is completely deluged with it; but that when given in smaller quantities it is not admitted by the extremities of the veins, and is transmitted along the capillary vessels in a way which we do not at present understand. It will be seen immediately that the vessels of certain excretories appear to possess a similar power of rejection over this substance. I have already mentioned, that after giving a full dose of the iodide of potassium, iodine was detected in abundance in the serum exhaled into the serous cavities, and in the synovia of the knee-joint. Of the secretions, it was in the urine that iodine was always detected in greatest abundance. It appeared in the urine about four hours after the

first dose was taken, and continued to be detected in it for four days after the last dose was taken. In one or two instances it was found on the fifth and even on the sixth day after. It continued to be observed for the same length of time whether the iodine was given in one large dose, or the body had been gradually impregnated with it. Next to the urine it was in the saliva that the iodine was most abundantly found. It was found also invariably in the tears, and in the mucus of the nose, although in the latter case it was impossible to determine whether it was really secreted by the schneiderian membrane, or came down from the lachrymal gland. Iodine was found also in the milk, but it existed in that secretion in a very small proportion compared with that in which it was found to exist simultaneously in the urine and saliva. Iodine was also found in examining the mucus secreted from the lungs in chronic bronchitis, but it was difficult to determine whether its presence was not owing to an admixture of saliva.

While the hydriodic acid is thus widely diffused over the body, it would be to generalize too hastily to infer that it exists in all the animal fluids. I have already mentioned, that it is only in certain circumstances that it is to be found in the blood, and there are certain secretions the vessels preparing which appear constantly to reject it. At all events in none of the trials made could any portion of iodine be detected in them. Of these secretions or exhalations the first to be mentioned is the perspiration. I am aware that iodine is said to have been found in the perspiration, but I can only say, thst in experiments carefully made and frequently repeated upon patients taking iodine in very large doses, and whose urine and saliva became as black as ink on being tested in the usual way, not the slightest trace of iodine could be detected in the perspiration. The perspiratory fluid examined in these experiments was forced out by the use of diaphoretics, or was collected from the forehead of the patient in the hot bath. At the same time the water of the bath itself in which the patient was immersed, was examined, but with no better success. It may, therefore, I think, be confidently affirmed, that iodine is very rarely, if ever, present in the perspiration. Another fluid, in which I very early looked for iodine, and fully expected to find it, was the purulent matter secreted from sores, for the cure of which iodine was exhibited, but in none of very numerous experiments made on patients fully saturated with iodine, could the slightest tinge of the medicine ever be perceived in the purulent discharges. The absence of iodine from the discharges from the skin, and from ulcerated surfaces, is rendered the more remarkable by its efficacy in the cure of cutaneous diseases, and various forms of ulceration. I have only to add further, that in one or two experiments, iodine was not found present in the serous fluid of blisters.

The whole of the hydriodic acid introduced into the body is discharged along with the urine, with the exception of the very small proportion of it contained in the rejected saliva and mucus of the nose, and milk, when that secretion is going on in the female. The greater part of the saliva being swallowed, the iodine contained in it must be absorbed a second time from the stomach and bowels. A similar re-absorption must take place of the iodine contained in the exhalations that

are re-absorbed by the surfaces which effuse them. Thus, after describing many circuits, in various directions, through the body, nearly the whole iodine introduced comes ultimately to be discharged with the urine. The time occupied in this circuitous passage of the iodine is, as has been already remarked, generally four days.

Iodide of potassium is absorbed very readily from the skin: it is found in the urine just as when it is introduced into the stomach, but much less speedily.

With respect to the influence of the preparations of iodine we are here considering over the organs of digestion and assimilation, that influence was, to say the least of it, certainly not of an unpropitious kind; on the contrary, in patients employing these medicines in full doses, the tongue was almost invariably free from fur, and of a healthy red color; the appetite and digestion were good, and in many instances there was a most obvious improvement in *condition*. Of the two great alterant medicines we possess, iodine and mercury, it is certainly a most important advantage of the former over the latter, that it admits of being given freely, not only without injury, but with advantage to the general health; while mercury, given in full doses, is always a dangerous medicine, and often the means of doing irreparable injury to the constitution. The iodide of starch frequently caused costiveness, attended with griping pains of the bowels; and, as was observed in many instances, with a paleness, approaching to a clay color, of the alvine discharges.

These effects I was inclined to refer to the large quantity of hydriodic acid generating in the stomach, abstracting the free soda from the bile, and probably otherwise modifying its qualities, besides, perhaps, exerting a direct astringent action on the bowels themselves. The occurrence of these symptoms required the use of a laxative. In some cases, but very rarely, the iodide of starch produced the opposite effect of causing purging. In persons of weak digestion, it was often necessary either to give up the medicine altogether, or at least to diminish the dose of it, owing to the occurrence of pain in the stomach. It is possible that the conversion of iodine into hydriodic acid requires a certain vigor of digestion; and if so, the pain occurring in such cases may have been owing to the imperfect mode in which the process of conversion was carried on.

A question has of late been agitated—Whether iodine ever causes salivation? It does not, according to my observations, generally do so; but that it does so occasionally, I think there can be no doubt. In a man who had taken 2864 grains of iodine in the course of 42 days, in the form of iodide of starch, the medicine required to be given up on account of salivation, which was as profuse as I ever saw caused by mercury, and attended with swelling of the face and ulceration of the inner membrane of the mouth. It only differed from a mercurial salivation in being much less obstinate, going off as soon as the iodine disappeared from the saliva. I never saw this symptom occur to the same extent in any other case, but I have repeatedly seen it in a less degree. The man in whom it took place had been frequently salivated with mercury on previous occasions.

In several cases the pulse was accelerated when the system was impregnated with iodine; in many other cases no acceleration could be perceived, Upon the whole, one of the most remarkable circumstances attending the use of this medicine was the absence of symptoms produced by it. Patients who took the largest doses went about, and took their food, just as usual: so that had it not been for the peculiar chemical condition of their secretions, and in many instances the rapid disappearance of their diseases, it would not have been supposed they were taking medicine at all.

With respect to the relative efficacy as medicines of the iodide of starch, hydriodic acid, and iodide of potassium, I am inclined to place them in the order in which they have just been enumerated; although I must admit that the superiority whichI ascribe to the first is perhaps owing to my having prescribed it most frequently. The action of all of them, however, is very similar. The only mode of explaining the similarity of action on the body of substances so dissimilar in nature, is by considering the hydriodic acid as the active principle, producing the physioiogical and therapeutical effects usually ascribed to iodine. It has been already stated, that free iodine is immediately converted in the stomach into hydriodic acid. As to the hydriodate of potass, it is clear that in its passage through the body the muriate and phosphoric acids must lay hold of the potass, so that the hydriodic acid will combine with the weaker bases, the soda and lime, and thus pervade the system nearly in the same state as when free hydriodic acid itself is employed. The presence of the potass, however, must produce an important difference in the action of the hydriodate, which I have no doubt a more attentive observation will hereafter enable us to discriminate.

If the hydriodic acid be the active principle to which the alterant virtues ascribed to the preparations of iodine are to be attributed, analogy will lead us to range those preparations in the series of medicinal agents along with the muriatic, the sulphuric, the nitric, and other mineral acids,—all of which have been held to possess alterant virtues, and have been used on that account in syphilis and other diseases; and the great success which has attended the use of the hydriodic acid may serve as an inducement to try the other mineral acids more extensively, and in fuller doses, than they are commonly prescribed.—*Med. Gaz.* July 2, 1836. *Ibid.*

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3. *Iodide of Potassium.*—Dr. Buchanan says he has given this substance in doses of half an ounce, and the only precaution he observed was to make the patient drink freely of diluents. "No pain of the stomach or bowels was," says he, "produced, and the medicine never in the least degree operated as a purgative, but seemed to be altogether absorbed, and was discharged chiefly by the kidneys."

As the iodide of potassium is very often adulterated, it is necessary, to prevent any suspicions from arising in the mind of the reader as to the purity of the medicine employed, to state, that the iodide of potassium used in the Glasgow Infirmary is prepared under the direction of

a most able chemist, within the walls of the hospital, where there can be no motive to adulterate it.

It was not merely for the purpose of determining the dose of the hydriodate of potass that these large quantities of it were given. I found that to give it in such doses was the readiest mode of determining certain physiological questions with respect to the diffusion of this medicine over the body; for so large a quantity of it being at once introduced into the system, every fluid into which it is permitted to enter, is at once impregnated with it. It is in this way that it is most easily detected in the blood. Two drachms of it were given to a young man affected with gonorrhœa, and as soon as the medicine made its appearance in the urine, which was four hours afterwards, blood was drawn from his arm. On examining the blood, both the serum and crassamentum were found deeply impregnated with iodine. The same dose was given to a boy affected with dropsy of the knee-joint, from which it had been resolved to draw off the fluid. About five hours after the dose had been taken, a very small puncture was made into the joint, and upwards of twelve ounces of synovia drawn off by the cupping-glass. The synovia contained iodine in abundance. To an old man who had one of the largest hydroceles I ever saw, two drachms of the hydriodate of potass were given over night, and the same quantity the following morning. On tapping him some hours after he had taken the last dose, fully more than thirty ounces of serum were discharged, containing a large quantity of iodine.—*Ibid. Am. Jour.*

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4. *Results of experiments with Kreosote.*—Dr. J. Corneliani, Professor of Internal clinic in the University of Pavia, has investigated the powers of the kreosote experimentally, both in his clinic and on several species of animals. He has employed it internally, endermically, and finally by injection into the veins; and has varied the dose from the smallest to the highest. The following are his results:

1. Kreosote taken internally, in a large dose, may produce instantaneous death, without any organic lesion being observed on post mortem examination, if made immediately.

2. When pure or very slightly diluted kreosote is applied directly to a larger nerve, as the par vaguum, or it is injected into a vein even in small quantity, death instantly follows.

3. If the quantity is not sufficient to produce death, it causes prostration of the muscular and nervous systems; and symptoms of paralysis of the extremities, heart, diaphragm and organs of the senses, which leads to the belief that the kreosote acts like the narcotic debilitants, among which it should be arranged.

4, Although no antidote has yet been indicated against its toxicological effects, it appears that general stimulants are indicated, unless it has acted upon the stomach; in that case the debilitants, and especially narcotics, as the prussic acid, increase its fatal effects.

5. The kreosote also exerts more or less active mechanico-chemical action on the gastro-enteritic mucous membrane, which gives rise to various organic lesions met with in the dead body, and to chronic gas-

tro-enteritis in which persons are subject who make use of this article for a long period.

6. To counteract this mechanico-chemical effect produced by the kreosote taken internally, oleaginous and mucilaginous drinks should be administered. Vinegar being an excellent solvent of this substance—prevents its deleterious effects by favoring its contact with the nervous papillæ of the stomach.

7. In general, patients cannot bear a larger dose than two drops, repeated four or six times in the 24 hours.

8. Kreosote taken internally, may be useful in diabetes mellitus, polydipsia, hemoptysis, chronic catarrh, diarrhœa, palpitations of the heart, inflammatory fevers *(angiotenies)* and perhaps also in tetanus.

9. A singular effect of the kreosote taken internally appears to be its prompt action on the urinary organs; for the animal experimented on, urinated as soon as he took it. Dr. Corneliani ascribes this to the paralysis it causes, especially of the neck of the bladder.

10. The application of kreosote to the exterior in chronic inflammations of the skin, and especially in herpes (dartres), itch, chronic psoriasis, may be often useful, whether its action is drying, antiphlogistic or insecticide.

11. If the kreosote used externally is not applied to a large surface or upon important nervous branches, it produces no alteration of the organs, even of those upon which it more especially acts, as the spinal marrow, the brain and the kidneys. Dr. Corneliani has however observed that in phthisical patients, the inspiration of the kreosote may give rise to prostration of the intellectual functions and muscular movements.

12. If the external employment of the kreosote does not arrest venous hemorrhage, at least that of a large vein, as the femoral of a sheep, it is efficacious in hemorrhage from an artery of moderate size.—*Journ. de Chimie Medicale*, Feb. 1836. *Ibid.*

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5. *Iodide of Starch.*—Dr. Andrew Buchanan, Junior Surgeon to the Glasgow Royal Infirmary, in a communication in the *London Medical Gazette* (2 July, 1836) extols this preparation of iodine, which he prepares in the following manner:—℞ Iodine gr. xxiv.; Amyli in pulveren tenuissimum triti ʒj. The iodine is first triturated into a little water, and the starch gradually added, the trituration being continued till the compound assumes a uniform blue color. The iodide is then dried with a heat so gentle as not to drive off the iodine, and it must be afterwards kept in a well stopped bottle.

The iodine, in the usual forms of exhibition, cannot in general be safely given in larger doses than four or six grains daily; whilst in the above formula Dr. Buchanan has given as much as 72 grains daily. Dr. Buchanan is in the habit, in persons not laboring under dyspepsia or constitutional delicacy of habit, and whom he wished to put under the influence of iodine, of commencing with the iodide of starch in doses of half an ounce three times a day, and increasing it immediately afterwards to ounce doses if necessary. "As there is no great reason," he observes, "for nicely apportioning the doses, a heaped tea-spoonful,

desert-spoonful, or table-spoonful are convenient enough measures for smaller quantities in private practice. I have always directed the medicine to be taken in a draught of water gruel."

It might rationally enough be supposed from the large doses in which the medicine is administered by Dr. Buchanan, that it is an inert preparation, but such seems not to be the case, as Dr. B. has detected the iodine abundantly in the secretions, showing it to be absorbed; and has been unable to detect any traces of it in the stools of patients taking it in large doses. It certainly must exert a less irritant action on the alimentary canal than the other preparations of iodine, but it may be a question whether it will be possible to induce patients to persevere in a medicine requiring to be given in such large doses, making a meal rather than a medicine! *Ibid.*

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6. *On Dropsy following Scarlet Fever.*—By J. STARK, M. D., Edinburgh. Dr. Stark has given an excellent account of the scarlet fever as it prevailed epidemically in Edinburgh, in the autumn and winter of 1835–6. In fifteen cases dropsical sequelæ followed. In the most severe cases, the swelling came on suddenly without any previous complaint, and from a fortnight to three weeks after the disappearance of the eruption. The patient went to bed well, and in the night or the next morning the friends were alarmed by the sudden swelling of the body, attended with dyspnœa, moaning, restlessness, and sometimes stupor. In all the cases in which the urine was examined, it was found coagulable by heat. In many of the severer cases, the urine passed before the dropsy came on was very turbid, dark colored, in a few cases bloody. In two cases it was suppressed. Exposure to cold seemed the immediate cause of the dropsy: the function of the skin being checked, the blood is thrown upon the internal organs, and the kidney, whose action is vicarious with the skin, particularly suffers.

In all cases, except the very mildest, he bled in proportion to the severity of the symptoms, and the relief experienced from it. In severe cases he bled from the arm until the pulse was affected: under two years of age, leeches were used. The bleeding was followed by small doses of the antimonial wine with the liquor ammon. acet., and, where the urine was suppressed, a large hot bran poultice was applied to the lumbar region. In milder cases, the same medicines with brisk purging. The warm bath was of the most advantage. There was but one fatal case, of a boy five and a half years old, whose parents would not permit bleeding or leeches. Dissection was not allowed.

[The explanation of the action of cold in producing dropsy is given by Dr. Stark as his own, on which he founded his practice, which was very successful. It is but justice, however, io Dr, Osborne to state that he had previously advanced an identical explanation. (See British and Foreign Medical Review, vol. ii. p. 222.)]—*Edinburgh Medical and Surgical Journal*, October, 1836. *Bell's Jour.*

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7. *Efficacy of Chlorine in Scarlatina,—To the Editor of the Medical Gazette.*—Sir, Owing to the constant prevalence of scarlet fever, I am induced again to call the attention of the profession to the employ-

ment of chlorine in this too often fatal disease. A few years ago, when I resided at Bromley, in Kent, I published in the Medical Gazette some very remarkable cases of scarlatina, treated by my partner, Mr. Williams, and myself, in which the chlorine appeared to be highly useful. Not having the Gazette by me, I cannot recollect the exact time, but I think it was in September, 1830. However, I will venture to trouble you again with the particulars of one very striking case. It was that of a young woman in the service of Lord Farnborough. She had been to visit her parents in the country. Whilst there, her brother and sister died of malignant scarlatina. Soon after her return to Bromley Hill she fell ill, and had the disease in its worst form. I visited her first on a Sunday evening: I gave her an emetic of ipecacuanha, and then directed her to take a glassful of the chlorine mixture as frequently as she could swallow it. Under this treatment the dangerous symptoms soon gave way, and on the Saturday following she was down stairs.

I could relate many more cases, in which equal success attended the use of this medicine. In short, out of a great number of patients who were at that time attacked by the disease, two only died, both in the village of Wickham, one an infant, the other a spoiled child, ten years old, whose parents would not allow either medicine or nourishment to be given against the child's inclination.

I hope I shall be excused for again expressing a wish that medical men will give this medicine a fair trial, as other means so often prove ineffectual. My practice is to give, in the first place, an emetic of ipecacuanha, according to the age of the patient; to avoid active purgatives, which are injurious to children (particularly large doses of calomel;) and then to give the chlorine as frequently as possible.

As it appears to me highly important that the chlorine should be well prepared, I will subjoin the formula for that which I use, which was given to me by Mr. Brown, surgeon, at Lewisham:—

℞. Potass. Oxymur. ʒij.; Acid. Muriat., Aquæ Distillat., aa. ℥ij.

The acid and water to be mixed, and the oxymuriate dissolved in them. It is to be kept in a stopper bottle, in a dark place. Two drachms of this solution are to be put into half a pint of distilled water, to make the chlorine mixture.

I remain, sir, your obedient servant, R. T. Taynton.

39 *Queen Square*, Jan. 25, 1837. *Ibid.*

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8. *New Method of reducing Luxations of the Humerus.*—By M. C. Gerard. (Thesis.) M. Gerard has employed the following plan to thirteen cases of dislocated humerus, during the last fifteen years. All the cases were recent; he thinks it advisable in all the kinds of dislocation. The patient being seated in a chair, an assistant, placed on the side opposite to the luxation, passes his arms around the neck of the patient, and, crossing his hands over the luxated shoulder, opposes the efforts made by the surgeon to replace the bone. The surgeon, stationed on the injured side, places his left forearm beneath the upper part of the dislocated bone, as near as possible to the armpit. He then approaches his patient so closely as to allow the cubital end of the dislocated humerus to rest against his own side, whilst he supports it longitudinally as

near as possible to the trunk of the patient. The surgeon then draws the articulation in a direction upwards and outwards, and, without using much force, the bone is immediately replaced.—*Archives Gen, de Med.* Juillet, 1836. *Ibid.*

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9. *New Treatment of Strictures of the Urethra.* By M. JOBERT, Surgeon to l'Hospital St. Louis.—Having ascertained the situation of the stricture, M. Jobert oils a bougie, and then dips it into calcined alum reduced to an impalpable powder: if the obstacle is considerable, he dips the bougie again in oil, and afterwards in calcined alum, so that there are two layers of alum upon the bougie. He introduces the instrument gradually, and presses is softly against the obstacle, and fixes it in the urethra by four tapes. Sometimes two hours are sufficient to conquer the obstruction, and allow the patient to pass his water; at other times, it does not succeed until the next morning. It is necessary to introduce the bougie, similarly medicated, for many days successively, until it reaches the bladder. M. Jobert has found the most obstinate strictures yield to this treatment: the inflammation it produced was moderate, and the discharge soon ceased.—*Journal Hebdomadaire des Sc. Medicales*, 10th Sept. 1836. *Ibid.*

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10. *New Treatment of Onychia Maligna.* By C. RAY, Esq., Falkingham.—Mr. Ray is opposed to the entire revulsion of the nail in this most troublesome disease, and justly states that it is useless to expect a cure until that part of the nail, at least, which acts as a constant source of irritation is removed. His mode of treatment is, after freely, dividing the swollen parts over the root of the nail and cauterizing them to apply poultices, and enjoin perfect quiescence of the limb. This mode of treatment, the caustic being re-applied every second or third day, brings the part into a state favorable for the partial removal of the nail, which is effected by passing a scissors from within outwards beneath the posterior angles on each side, and removing "an exact triangular portion," the two incisions meeting in a point in the centre of the posterior edge of the nail. After the separation of the nail, the wound is dressed with adhesive straps which are not to be removed for some days.—*Lancet*, November 12, 1836. *Ibid.*

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11. *On Binding the Abdomen of Lying-in Women.* By HUGH LEY, M. D.—Dr. Ley is of opinion that the bandage so commonly applied after delivery has been greatly over-rated. In his experience there is but one circumstance in which the bandage with a compress over the uterus is imperatively called for. It is in a form of hemorrhage described by Dr. Gooch, in which the uterus which had contracted is again dilated by hemorrhage taking place into its cavity: in these cases, it is not only requisite that the uterus should be cleared of the coagula, but that it should be prevented from again enlarging; and this can only be done by a bandage and compress; but they should not be applied until repeated gushes of blood have reduced the circulation. In preventing the occurrence of hemorrhage, for which it has been advised, its use is very equivocal; for, amongst the poor where it is omitted, the relative

mortality from hemorrhage is probably less than among the rich. To restrain actual hemorrhage it is obviously insufficient; and, if it may have been applied, it must be removed, in order to ascertain the state of the uterus, and to adopt those manipulations by which the bleeding is effectually restrained.

The bandage alone may be applied over the abdomen, with moderate and equal pressure, in cases of syncope following rapid delivery, which is produced, as in tapping, from the sudden removal of pressure; and, in such circumstances, it should be applied immediately on the expulsion of the child. It may also be used to satisfy ladies who believe that it will preserve their form by preventing permanent distention of the abdomen, and to relieve uneasy sensations consequent on the relaxed condition of the abdominal muscles: but, in these cases, it need not be applied until the clothes have been changed, and the patient placed in bed, and sufficiently loose to allow the hand to pass easily between it and the belly.

The bandage and compresses often produce *injurious consequences.* Dr. Ley has known it force the uterns to one side of the abdomen, producing much uneasiness in the hip, stretching the ligaments and pressing the appendages of the uterus against the sharp linea ileo-pectinea: hence laying the foundation of permanent obliquity of the uterus, not unfrequently a cause of barrenness. Another effect is to push the uterus lower into the cavity of the pelvis; thus producing prolapsus uteri, which Dr. Ley has more than once traced to this cause. Not only is the uterus pushed downwards, but the vagina is sometimes thrown into folds; the whole circumference descending until it forms a bulky tumor at the vulva, These evils are great, and not unfrequent. Dr. Ley is also inclined to think that the bandage increases after-pains.—*Med. Gazette,* September 10 and 17, 1836. *Ibid.*

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12. *Nitrate of Silver in Diseased Stomach.*—Dr. J. Johnson lately stated to the London Medical Society, that in cases of simple irritation of the stomach, in which the organ did not bear well the presence of food, and digestion did not proceed in the usual manner, in conjunction with the use of small quantities only of the most nutritious and digestible food, nitrate of silver had proved to be one of the best remedies in lessening the irritation of the organ. He generally began with half a grain, given in the course of a day in three doses, increasing it, if necessary, to a grain and a half in the same period, but seldom exceeding this. In epilepsy, however, he had given as much as eight grains in 24 hours. Dr. J. also stated that in a sub-inflamed state of the mucous membrane about the fauces, in which there was thickening of the membrane, elongation of the uvula, with harassing cough and other symptoms, the nitrate of silver might be used with advantage. A plan which had been adopted in these cases with success, was to dip the sponge of a probang into a solution of the nitrate, and push it down the pharynx until it reached the upper part of the œsophagus. Highly irritable ulcers had also been relieved by this remedy. Dr. J. had never seen but one case in which the skin had been tinged blue by this medicine, which was a case of epilepsy, but in which the patient had continued the

medicine six weeks beyond the time to which he was ordered to continue it. *Boston Jour.*

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13. *Some Observations on the Use of the Hydriodate of Potass as a Remedy for Venereal and Cachectic Symptoms.*—There are few of our readers, who are not aware of the tendency to fashion that prevails in the exhibition of remedies. One year, calomel and opium are the rage—the next is consecrated to the glorification of colchicum—then every body must swallow strychnine—now, or at least lately, iodine was the mode. Some men fall more easily into the periodical prescribing of strange remedies than others do. A man of good common sense is loth to give up the use of a medicine he is acquainted with, for that of one he knows nothing about. If an old remedy answers in a certain case, he naturally asks himself "why should I change it? I know what it will do; but I do not know what effects this new drug may produce. When the remedies I am in the habit of employing fail, when the indications of treatment are not likely to be responded to by their familiar and well established properties, then I should be wrong not to try rational experiments with new medicines. Till then, you must excuse my rushing headlong, to the hazard of my patient and my own disgrace, into senseless though shewy trials of a pharmacopœia of novelties." Such is the calm rebuke, we may imagine a physician or surgeon possessed of sound judgment and experience, offering to the rash prescriber of new drugs.

There are many reasons why such drugs should be abused. The love of novelty is always operative, and constitutes at once a very useful and a very dangerous element in human nature. It is useful because it is the source of all great inventions—it is dangerous, when not moderated by caution and good sense, because it leads to perpetual change.

This passion for novelty is backed at the present day, by the spirit of journalism. The rapid phases of the weekly prints offer temptations to men of strong desires and weak minds, to publish incessantly any thing new, no matter whether it be philosophically true or not. It is painful to be obliged to admit that the medical press is in an unsound condition. Reputations are too often sacrificed from a spirit of personal hostility, and as openly awarded from motives of personal favoritism. The professional merits of a man are determined by a standard, decisive enough, but certainly not honest. Does he belong to a certain party? If he does, he is a second Hunter, or a Baillie, or a Cuvier—an admirable lecturer, although he stutters to snoring pupils—an excellent practitioner, although every body of discretion is glad to escape from his clutches. If he does not belong to the proper party, his ignorance and imbecility become immediately conspicuous.

Party rage was always deemed to have gone its utmost lengths in the political world, and in the political press. Of late years, that press has been distinguished on the whole for its ability and honesty. It is true, that extreme opinions have been advocated. Yet in the leading journals while political creeds are enforced with all the power of language, their columns are seldom polluted with gross ribaldry or disgusting personalities, never with deliberate untruths. It has been reserved for a

scientific profession to exhibit in its literary appetite a keen relish for slander, and a taste for what is frequently neither more nor less than falsehood.

Journalism has encouraged the disposition to attract the profession, we will not say to humbug it, by positive assertions of the powers of new drugs. It is easy, as experience has proved, to get up a glittering array of cases, in which some newly-imported remedy has effected marvellous cures. The vulgar stare, and think that he must be a very clever fellow who has done all this. Gradually indeed the credulous are undeceived, and experience, after a season, shews how exaggerated the statements were. But the experimenter's purpose has been served. He has attracted notice, has been consulted in strange and in common cases, and as soon as the old bubble has fairly burst, he blows another. Such is a brief sketch of what has occurred on the professional stage There have been too many actors in the farce, but we do not allude in particular to any one. Yet conscious sensitiveness may induce this or that individual to imagine, that we point at him.

> When you mention vice or bribe,
> 'Tis so pat to all the tribe:—
> Each cries—"that was levelled at me."

In the present article, we merely intend adverting to the hydriodate of potass, a remedy which has been latterly used in many complaints of very opposite descriptions, but has been especially employed in the treatment of venereal symptoms. We shall make a chapter in the work of Mr. Judd, and a lecture by Mr. Wallace, of Dublin, the text on which we shall hang some comments.

We have already drawn attention to the exhibition of the hydriodate of potass in cases of syphilis, particularly in two notices of two papers by Dr. Williams.* We remarked that, on the whole, the evidence adduced was unsatisfactory, and that the actual powers of the hydriodate yet remained to be determined.

Mr. Judd's observations on the hydriodate are imperfect. They are rather anticipations of what it may do, than actual statements of what it has done. The facts he states are four in number, and all are instances of secondary symptoms. We shall give a sketch of them.

1. A man had connexion with a prostitute on the 17th of June, 1833. On the 20th he had urethritis and a pimple on the body of the penis. On the 22d, the pimple had become a sore, which healed on the 30th, and the urethritis ceased.

On the 27th of September, we find him with ecthyma, ulceration on the lower part of the tibia, an ulcer at the back of the throat, a gleet, and an excoriated glans penis. Under the employment of antimony, the warm bath, etc., followed by the infusions of gentian, the ecthyma declined, the ulceration healed, and chocolate-colored stains, with œdematous ankles, and a few fresh flat pustules were left on the 28th of October. On the 1st of November there came out an eruption of lichen,

* One of those papers was published in the Medical Gazette—the other in the first number of the St. Thomas's Hospital Reports.

which assumed a pustular character, and faded. The patient grew fat, but was pale and bloated, and suffered from severe nocturnal pains in his shins, when, on the 12th of December, he was ordered—

Potass. hydriod. gr. v. *ter. die.*

By the 24th, he was quite free from pains, and was in good health. In February, he had, for a fortnight, effusions into the abdomen, which were removed by purgative diuretics; and by a report, dated July 12, we find that there had been no relapse.

2. On the 10th of November, 1832, a man had connexion with a common woman. On the 2nd of January, a slight sore commenced on the glans penis, for which he took five grains of blue pill twice daily. How long this was continued it is difficult to say, for the case displays the ordinary obscurity of Mr. Judd. On the 9th, bubo which did not suppurate. On the 12th, the sore healed. On the 11th of February, after exposure to wet and cold, a sore throat, succeeded by pains, and in April, by a discharge of pus and blood from the nostrils. On the 18th of May, he presented rupia. It would appear that mercury was persevered in till the 19th, a period of upwards of four months! He suffered, with slight intermissions, from severe pains in the forehead and temple, the bloody discharge, now sanious, continuing. On the 24th of August, he was ordered to rub in, with temporary benefit. On the 13th of September, an abscess formed over the right os nasi, where a large ulcer formed. On the 4th of October, there came pain and swelling of the left eyebrow, which was extremely indurated. Then followed an abscess in the lid, whence the probe passed to carious os frontis. On the 9th of November, periostitis of the left shin. From Aug. 30th to Nov. 11th, the mouth was kept sore. On the 19th, the protuberant part of the lid sloughed. On the 24th, a large thin shell of bone came away from the throat.

26th. "The left nostril has become ulcerated within, and excoriated without; every now and then yellow discharge concretes upon it, and the patient is excessively plagued by it. A bent probe passed in by one nostril goes through the septum and out at the other; the part, once the bridge, of his nose, has sunk upon the face so as to form a slightly curved hollow: he has a pallid, leaden hue of countenance, he loses strength, and his nocturnal pains continue."

Thus he went on, his health being much impaired, his sufferings great, the nocturnal pains severe, the ankles swelling, when, on the 15th of December, he was ordered *potass. hydrio.* gr. v. *ter die in aqua menth.*

To this was added a pint of new ale daily.

On the 21st, the nocturnal pains had almost ceased, and his health was better. On the 26th, the swelling of the forehead and eyelid had quite subsided. The ulcers soon after healed, and, in short, recovery took place in a highly satisfactory manner.

3. "In another secondary case, that of a young gentleman (the original disease not being contracted in England,) with eruptions on the skin, pains in the shins and effusion into the synovial membrane of the knee, I easily effected a cure by this same remedy. He hunts and gets wet, and although more than a year has elapsed, he has not experienced any return of his complaint."

4. "The hydriodate in the present month, in another instance, quickly removed an eruption and nocturnal pains; but the bubo remains to be healed. I am also trying the remedy upon a node, but have not continued its use long enough to ascertain how far it is efficacious in removing osseous dispositions."

Such are the effects, such the evidence adduced by Mr. Judd. When we examine it, we perceive that the cases in which the hydriodate was beneficial were of the cachectic character—cases to which mercury is notoriously, as a specific, inapplicable—cases, indeed, which are generally the result of the abuse of mercury. In the second case this was plainly the fact, and the unfortunate patient had good reason to complain of the treatment adopted in the first instance.

Let us return to Mr. Wallace.

This gentleman has tried the effects of the hydriodate in many cases of secondary symptoms. He has formerly, it would seem, employed other preparations of iodine, but latterly he has confined himself exclusively to the hydriodate, and for rather a singular reason. Most persons would use this or that form of a medicine because it answered better than another. The chief consideration, however, with Mr. Wallace would appear to be a speculative one; at all events, he puts his hypothesis in the front of the battle.

"In the first place," he says, "I believe, that whatever preparation of iodine you use, it is only in the state of hydriodic acid, or of a hydriodate, that it enters the system. I have never been able to detect free iodine in any part of the body, or in any of the excretions. If you administer iodine in its free state to a dog, and examine the contents of his stomach, after the lapse of a very short time, you will not be able to detect an atom of iodine in the free state. You will find that it has all been converted into hydriodic acid. On one occasion, Dr. O'Shaughnessy could detect no iodine in the matter discharged from the stomach of a dog to which he had given this substance fifteen minutes previously, but he found a large quantity of hydriodic acid. Are we not, from these facts, entitled to arrive at the conclusion that iodine, as I have said, enters the system only as an hydriodate or as hydriodic acid? If this be the case, it is quite useless to employ iodine in any other form, when it is our object to introduce it into the system."

We would observe that it by no means follows, because iodine is converted in the stomach in hydriodic acid, that therefore it is of no use giving iodine in any other form than that of hydriodic acid. This is as palpable a bull as ever gored Paddy. If Mr. Wallace could show that hydriodic acid was the only efficient form of the medicine, and that iodine exhibited in any other way would *not* be converted into hydriodic acid in the stomach, then his conclusion would logically follow from his premises. As it is, we have a true Hibernian non sequitur. Put it in the form of a syllogism, and see how it looks. Hydriodic acid is the only form that gets into the system—but iodine, introduced into the stomach, immediately becomes hydriodic acid—therefore, it is useless to give iodine.

The second reason which Mr. Wallace urges against any form of iodine but the hydriodate is a tangible one. He affirms first that iodine in its free state is very irritating to the stomach, the conversion into the hydriodic acid not being sufficiently rapid to prevent disturbance or even inflammation of the mucous membrane. And, secondly, he declares that the hydriodate of potass does not give rise to such injurious effects. This is the plain expression of a fact, and we have only to enquire if the fact is a true one.

We are disposed to go some way with Mr. Wallace, but not to the very end of his conclusion. We decidedly think that he overrates the mischievousness of the tincture of iodine, or of other forms of it besides the hydriodate. We have seen the tincture exhibited on a considerable scale, and we have given it freely ourselves. When the case

was judiciously selected, and the medicine carefully managed, we have seen no bad effects whatever from its use. Perhaps there are few remedies which have been more extensively prescribed in London within the last few years, and though rash and ignorant people have no doubt abused it, still the experience of the best physicians and surgeons of the metropolis will certainly not be found to correspond with Mr. Wallace's. It is rather remarkable that when iodine was first employed for the relief of secondary symptoms, it was this very calumniated tincture, that effected those rather surprising cures which attracted the notice of the profession. It is a common practice to "give a dog a bad name," but, scientifically speaking, we may question its propriety.

While we defend the tincture of iodine against the unmerited obloquy heaped on it, we agree with Mr. Wallace that, on the whole, the hydriodate of potass is the preferable preparation. It is milder in its effects, less variable in its operation, and while it does not stimulate the intestinal mucous membrane so much, it appears to exert less of that peculiar depressing influence occasionally witnessed after the exhibition of the tincture. Common experience is seldom, in the long-run, false, in cases to the determination of which it is applicable. That experience has, in this country, given the general preference to the hydriodate of potass. It is probable that Mr. Wallace has too bad an opinion of the tincture of iodine, but in declaring the superiority of the hydriodate of potass, at all events in venereal affections, he echoes the prevailing sentiment.

Mr. Wallace dwells much on the presence of the hydriodate in the urine, and in some of the secretions. There is nothing in this to attract attention. It is only what occurs with hundreds of drugs as well as with articles of diet.

The effects which he has observed to follow the employment of the medicine may be briefly stated :—

1. Increase of appetite, strength, and spirits.

2. Increase of the excretions, and secretions; of the urine—the perspiration—the saliva—increased action of the bowels. None of the effects are constant, and even the reverse of any one of them may happen.

3. Occasionally the hydriodate disagrees with the stomach, occasioning dyspepsia, heartburn, and a sort of sore throat. These accidents, Mr. Wallace informs us, are controllable by quinine.

4. Some patients have complained of watchfulness, and of a feeling in the head, approaching to headache. A purgative, and intermission of the medicine, have been necessary.

5. In two patients, who were over-dosed, there was sickness, soreness of throat, colicky pains, vomiting, and purging to a slight degree, frequent pulse, and exhaustion. These symptoms were relieved by laxatives.

6. Several patients have been attacked with a pleuritic pain. When bled, the blood was cupped.

7. On one occasion purpura decidedly resulted from it.

8. In a patient who took the hydriodate indiscreetly and excessively by his own direction, there occurred indigestion of the character already noticed, with severe headache, and a rapid and quivering pulse. "But the most remarkable of his complaints was a peculiar state of his eyes,—such a state as I never have seen before or since. The pupils were dilated, and both his eyes were in a state of incessant motion. These motions strongly resembled those of a child who has congenital

cataract. He found himself quite unable to fix them on any object. He kept his hand constantly over them, as if to shade them from the light, yet he seemed to say that the light did not hurt them." He complained of constant headache. Soon after this, he was seized with paralysis on one side of the body, preceded by muscular tremblings. He continued in a dangerous state for some weeks, when he began to amend, and has a reasonable prospect of recovery.

Such is the substance of Mr. Wallace's remarks. They appear to us to be very just, although we think he is inclined to under-estimate the ill effects, and overrate the good that springs from the use of the hydriodate. Be that as it may, it is obviously a matter of importance to understand rightly the operation and the action of any remedy, particularly of one of so powerful a character as the one before us.

Our own experience, so far as it goes, and latterly we have employed the hydriodate in many cases, agrees very nearly with that of Mr. Wallace. The experience of a hospital is frequently not borne out in private practice, the constitutions of the patients in one and the other presenting material differences. This may account for our finding the hydriodate disagree much more than Mr. Wallace seems to have done. The patients to whom we have given it have been mostly private patients—persons in the respectable classes in London. The subjects of his observations have been chiefly in and out patients of the infirmaries to which he is attached. We may well conceive that the stomach of a Patlander, accustomed to regale on potatoes and whiskey, will bear stronger stuff in the way of physic, than will that of an English gentleman or tradesman. Every one accustomed to hospital and private practice in London, is aware of the difference of dose necessary in the administration of many medicines, and of the difference of effects observed in their patients in the former and the latter.

Up to a certain point, the hydriodate of potass, like the iodine itself, appears to be a stimulant, if not a tonic. Certain it is, that it quickens the pulse, often increases the appetite and strength, will even occasion embonpoint, and excites more or less the whole system. It resembles in this respect arsenic, which, it is well known, will operate as a tonic, in certain doses, and in certain cases.

Yet the hydriodate cannot be deemed a mere tonic. The medicines of that class exhibit, on the whole, very different effects. If we watch, for example, the operation of bark, we find that it excites the action of the heart, and of the capillaries, increases the strength, and invigorates the system. If pushed to a certain point, the bad effects that follow are just what might be supposed to result from an excess of the same sort of action. Too much blood is made, and it is circulated with too much force—sanguineous congestions or local inflammations ensue—the whole system is oppressed and overloaded—but none of that peculiar depression occurs, which marks the influence of a poisonous agent, exerted on the nervous system, or displayed through its medium.

To call arsenic a tonic, if by tonic is to be understood a remedy like bark, is clearly an abuse of terms. Arsenic, in appropriate doses, will at first quicken the action of the heart, and excite the system much in the same way that a tonic does. Acting thus, it will even cure diseases for which bark is notoriously efficacious—neuralgia, or intermittent fever. But here the analogy abruptly stops. If the arsenic is still given, or if its dose is increased, a new train of symptoms are suddenly developed. Either inflammation of the gastro-intestinal mucous membrane supervenes, or a prostration occurs, that is evidently the result of a powerful poisonous agent. We have seen arsenic given

for diseases of the tongue, agree very well for a certain time, and all at once the patient has been seized with tremblings, rapid and weak pulse, and deadly exhaustion. One patient died in this condition, and on dissection, nothing decisive was found. There was a slight redness of the gastric mucous membrane, and that was all.

There appears to us to be a greater analogy between the action of iodine and arsenic, than between that of iodine and any other medicine. We say analogy, for their specific effects are materially different.

Iodine, at first, like arsenic, stimulates the system, and excites the action of the heart and of the capillaries.* If carried too far, its effects are not simply, like those of quina, excess of stimulation, but, again like those of arsenic, poisonous and specific. The gastro-intestinal mucous membrane may suffer, or it may not. That is rather a local and accidental consequence. But whether it does or not, peculiar symptoms ensue—nervous agitation—rapidity and weakness of the heart's action—muscular tremblings and debility—general depression—and even death. We have seen all these effects, short of actual destruction, from the exhibition of iodine, both for cachexia and for malignant growths.

The hydriodate of potass differs from iodine in possessing more of the simply stimulating, and less of the peculiar and poisonous property. It is a difference, however, of degree and not of kind. The cases related by Mr. Wallace, and some that we could bring forward, are sufficient to show that, although it may be given with more freedom than free iodine, the same description of bad effects must be apprehended and guarded against. We need not fear them so much, but we must not forget that they *may* come.

Practically speaking, the injurious consequences of the hydriodate are rather of the immediate than remote description—they flow from its primary and stimulating qualities; not from its consecutive depressing ones. The mucous membrane of the stomach is irritated and excited, and secretes more acid, and the irritation extends to the œsophagus and pharynx. We have found uneasiness of the stomach, pyrosis, heartburn, and that peculiar constriction and heat in the throat alluded to by Mr. Wallace, very commonly produced by a continuance in the employment of the medicine. Occasionally we see still more distinctly the effects of the stimulant property of the hydriodate. Inflammation of the pleura, headache dependent on cerebral congestion, or inflammation of the gastro-intestinal mucous membrane, may ensue. It is not at all uncommon for persons who are taking this medicine to be attacked with heat of skin, headache, full pulse, loaded tongue, in short, with decided pyrexia. Probably, if the remedy were continued under these circumstances, either some positive local inflammation would arise, or the poisonous effects of the hydriodate would be developed.

We think, then, there can be little doubt that the sensible effects of the hydriodate of potass are in the first instance of a stimulating and a tonic character. We say sensible effects, for there may be, and there probably are others of a more refined and subtle description, which not being shown by any tangible alterations of the functions, are not so readily appreciated.

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* When we talk of the action of the capillaries, we do not wish to advocate any hypothetical notions of their functions. We use the term for the want of a better, and refer merely to the operations of the capillary system, exhalation and secretion and absorption, without troubling ourselves about their causes.

Were we to believe some authors, the hydriodate is a medicine of great value in all secondary venereal symptoms. This does not agree with what we have seen, nor is it likely a priori to be true. Few things can be more opposed in all essential features, than a secondary papular or tubercular eruption, and the cachetic rupia or ecthyma. The affection, in the first instance, may be the direct and simple consequence of the syphilitic virus, the constitution of the patient is good, the symptoms are of a sthenic character, and mercury, if properly exhibited, effects a cure. In rupia or ecthyma all bespeaks cachexia. The vesicles or pustules form scabs, foul ulcers, or become phagedænic or sloughing sores—the periosteum or the bones may be affected—the patient is emaciated—debility is evident—and mercury, the abuse of which has usually caused the symptoms, almost always aggravates them. It is not likely, we say a priori, that any one remedy should suit equally such opposite states. It is not consistent with our common experience of medicines or of maladies, nor does it agree with what we have observed of the effects of the hydriodate itself.

The venereal cases in which we have seen most benefit from the hydriodate, have been chiefly those of a cachetic character—cases in which repeated courses of mercury have been given, and in which the patient either does nor require or will not bear that remedy. There are usually pustular or vesicular eruptions, producing scabs and unhealthy, sloughing, or creeping ulcers—ulceration of the throat of a character similar to that upon the skin—nodes, caries of the bones—chronic inflammation of the testis and the cord. Such is the kind of case in which the hydriodate appears, upon the whole, to do most good. It is frequently surprising to see how rapidly, and even permanently, the patient will recover. He may have gone on for months, or even for years, with only temporary and delusive periods of amendment, when a course of the hydriodate may set him at once and effectually upon his legs.

We lately attended a gentleman with Mr. Davis, an intelligent surgeon of Hertford. The patient had been ill for two or three years. When we saw him, there was considerable tumefaction of the alæ nasi, with redness of the integument, and discharge from the nostrils. There were several cachectic ulcerations on the skin—ulceration of the soft palate and pharynx—emaciation—and general ill health. We prescribed sarsaparilla and some other remedies, and the patient mended a little. But portions of diseased bone came away from the nose, and a piece, apparently of the horizontal process of the palate bone, was discharged through an ulcerated aperture in the front of the velum. We now put the patient on the hydriodate. The result was most gratifying. All the symptoms very speedily subsided, and the gentleman has been left with a small, round, circular aperture in the palate, productive of too little inconvenience to require the application of the suture.

We must own, that although occasionally the hydriodate has effected both rapid and permanent benefit, it has not in the majority of instances done so. It is the character of the cachectic disease we have mentioned, to return again and again, and to exhibit repeated vicissitudes of improvement and relapse. It is indeed a singular complaint, and one well calculated to illustrate the doctrines of the humoral pathology. A patient is attacked with an eruption of rupia or ecthyma, and the vesicles or pustules ulcerate or slough—at the same time, perhaps, ulceration of the throat appears or spreads, or sloughing invades the

mucous membrane of the fauces or the nares. After a time these symptoms become mitigated—the sloughing is arrested—the ulcerations may heal—and the patient may even seem to be restored to health. But the recovery is deceptive. Suddenly, he is again seized with the whole or with a part of his former symptoms, which again exhibit the same successive phases of aggravation, arrest, and amendment or apparent cure. This scene may be, and generally is repeated many times, and the event depends on the treatment employed, and on the constitution of the patient. If both are bad, the attack grows more and more serious, or rather they leave him less and less able to sustain them. The bones may or may not become affected, but, whatever be the character of the specific symptoms, it is not from them, per se, that death usually results. Accidental circumstances lead to disease of some vital organ, and, in the majority of instances, either phthisis, or fever ending in ulcerations of the mucous membrane of the bowels, terminates the case.

It could hardly be expected that any remedy would at once cut short a malady of such a character. It is clearly a constitutional disease, and like scrofula, depends on too general an alteration of the system to be at once put out. Such anticipations are supported by experience, and it is seldom indeed that a case of any severity is quickly cured. Of course there are differences of degree in this, as in all other complaints, but we repeat that we must not anticipate an off-hand *and* permanent recovery from any system of management, undoubtedly not from any single drug.

In many of these cases the hydriodate agrees remarkably well. Given at the proper time, seems to arrest the phagedænic action, promote the cicatrization of the sores, and re-establish the health of the patient in a very remarkable degree. But many other remedies do the same thing. Sarsaparilla—the mineral acids—tonics—sometimes small doses of mercury, produce in these cases more or less of the same effects as the hydriodate. In short, it is preposterous to term this medicine a specific for this complaint, for though it sometimes answers better than any of the others we have mentioned, it not unfrequently does not answer so well. It is an addition, and a valuable addition to our means of treatment—it gives us one other medicine to ring the changes with, and that is the most that can fairly be said of it. We may mention a case which is sufficiently illustrative of these remarks.

Case.—A respectable tradesman, after a long and injudicious course of mercury for a venereal sore, was attacked with extensive ulceration of the fauces, and with a phagedænic ulceration on the left arm, which succeeded a vesicle that scabbed. A variety of means were tried. Sometimes he was better, sometimes he became worse. He was put on the hydriodate in full doses, with almost instantaneous benefit. The ulcer of the throat almost healed. Again it broke out, and again the hydriodate effected the greatest benefit. But still these relapses occurred, and now, at the end of two years and a half from the first appearance of the ulceration in the throat, the patient is in a very precarious condition. The fauces are covered with a slouthy ulceration. A portion of the lateral and nearly all the vertical cartilage of the nose have been destroyed—and gastro-enteritis following the *cautious* employment of the hydriodate nearly proved fatal about a month ago. In each attack the medicine has appeared to be of signal service, yet two years and a half have passed, and the individual is not materially benefitted, but rather the reverse.

We could mention many cases of this description, and we can assure our readers that there is not a greater error than to suppose that, because the hydriodate is of temporary, it is always of permanent service. It is a remedy which should be employed with judgment, caution, and that distrust which *must* spring from an acquaintance with the peculiar character of the disease.

Not unfrequently, it is either of no service at all, or it positively disagrees.

We have at present under our care a gentleman, whose case has been in some respects a singular one. Having had, to his knowledge, neither sore nor urethral discharge, he was attacked with yellow ulceration of the throat, and what looked precisely like the venereal tubercle. He consulted a surgeon, who felt unwilling to order mercury, and prescribed the tincture of iodine. The ulceration quickly healed, and the eruption appeared to decline. But soon both re-appeared. We saw him about nine months after the commencement of the ulceration of the throat. Both tonsils were then the seat of sloughy ulcers, and there were several spots of rupia on the skin. He had also secondary ulcerations at the verge of the anus, which were exquisitely painful. We ordered a course of calomel and opium, under which the ulcerations of the rectum and of the throat healed, and have never since returned. But the rupia spots ulcerated, and at intervals fresh sloughy ulcerations have appeared on differant parts of the body, accompanied latterly with nodes. We have repeatedly tried the hydriodate in this case. After a few days, it occasions heart-burn, pain at the epigastrium, pyrexia, and a more sloughy state of the sores. To these it has never been of service, and the patient has been always made ill by it.

In cachectic cases of a more obscure character, and totally unconnected with syphillis or with the abuse of mercury, the hydriodate occasionally does wonders.

Case.—A gentleman was seized with what appeared to be pleurisy. He was bled to a great, indeed, to an improper extent. He had previously been a free liver, and the depletion reduced him in such a manner, that he never properly rallied. Under these circumstances, he was attacked with violent pains in the bones—he was sallow, emaciated, and had all the appearance of a man broken down with the venereal cachexia. He was under the care of the most eminent physicians at Cheltenham, but got no better, or not materially so. He came to London, and consulted an eminent surgeon, who prescribed the hydriodate. The pains in a week or two disappeared, and he rapidly recovered. Whether the cure will be permanent, it is of course impossible to say.

The hydriodate has been applied to the treatment of other venereal affections, besides the cachexiæ we have spoken of. In the present article, we confine ourselves to what we have personally witnessed, and shall, therefore, state only the results of our own observation.

1. We have not tried it in cases of primary syphilis, nor do we *imagine*, from what we know of its operation, that it will be of service. Perhaps, in some cases of primary phagedænic ulceration, it may be useful.

2. Nor, from what we have witnessed, should we conceive that it is applicable to the pure syphilitic eruptions—the scaly, or the tubercular. These eruptions are so much under the control of mercury, and its action is so different from that of the hydriodate, that it seems

both unnecessary and unreasonable to employ, or to anticipate much from the employment of the latter.

3. It has been lauded in cases of papular eruption. But we should pause before we attach much importance to its use in *them*. Lichen is so fugitive in its character, that it is difficult to determine the effects of remedies upon it—at all events, there is an obvious source of fallacy.

4. We have tried the hydriodate in some of the more vague secondary venereal symptoms.

a. In a case of enlarged tonsils, covered with white superficial ulceration, and connected with vaginal discharge and condyloma, it was of no benefit.

b. A gentleman had sores, which were said in Paris to be excoriations, and were treated in England as syphilitic. He seems to have taken a good deal of mercury. His health had been impaired by previous dysentery, contracted in Syria, while travelling for amusement. Two years afterwards we saw him. He was liable to frequent irruptions of small superficial sores on the lips and tongue, and had psoriasis palmaria. We have tried the hydriodate three times in this gentleman. Each time it occasioned dyspepsia, and did no good to the complaint. In another similar case, we used the medicine with the same want of success. In a third case, it was of use, but the disorder was getting well when we ordered the hydriodate to be taken.

Such are the results of our own experience. We have employed the hydriodate in other cases, but the results were not sufficiently distinct to induce us to allude to them. On the whole, we are disposed to coincide with those who have found the hydriodate answer best in cachectic cases. But we think that, even in these, it is uncertain, and that it has been overrated. It is another string, and not a bad one, to a bow that has several already, but requires more.

The most usual mode of exhibiting the hydriodate is in the state of solution in camphor mixture. It is nauseous in that form. Perhaps the pleasantest formula is the succeeding, or one like it.

℞ Aquæ Florum Aurantii, ʒiij.
Aquæ Distill. - - - - ʒj.
Syrupi Aurantii - - - ʒj.
Potass. Hydriodatis - - gr. v. ad x.
M. ft Haustus ter die bibendus.

We have found that, in cachectic cases, it is usually better to conjoin the hydriodate with small quantities of sarsaparilla. Either the fluid vehicle of the hydriodate may be sweetened with a drachm or two of the syrup of sarsaparilla; or the latter, in the most appropriate form, may be taken a little after the dose of the hydriodate.

In private practice, patients will seldom bear more than ten or twelve grains of the hydriodate thrice daily. It is better to begin with small doses, and gradually increase them. We may commence with five grains twice in the day, and augment the proportion to the requisite amount.—*Med. Chirur. Rev.*

II.—ANALYTICAL.

Art. I.—Medical Graduates of the University of Pennsylvania.*

We have recently had the pleasure of receiving a catalogue of the graduates of our *Alma Mater*. The number is not added up, but they amount to about 3,300. A few of them, in the infancy of the institution, were graduated as bachelors; a practice which has been wisely discontinued since the year 1791.

In examining this register of the dead and the living for seventy years, several reflections are suggested.

1st. If we divide the whole period into two equal terms of thirty-five years, we find that the proportion of inaugural theses written in the Latin language, was far greater in the former than the latter period. Thus the whole number of graduates in one, was 186, nine of whom wrote in that language—the whole number in the other, was 3,114, but seven of whom wrote Latin—about one out of 21 in the former, and one out of 445 in the latter. It would appear, then, that there is a *diminishing* regard for classical learning among our students; a declension which we sincerely regret.

2d. In former times, when graduates were compelled to publish their theses, a greater proportion of them undertook experimental inquiries, than since the University dispensed with that requisition. Thus the repeal of the academic law, was the abolition of one motive to deep study and original research.

3d. It is worthy of note, that almost one-third—that is, 976 out of 3,300—of the graduates are from Virginia: Pennsylva-

* Catalogue of the Medical Graduates of the University of Pennsylvania, with a historical sketch of the origin, progress and present state of the Medical Department. Published by the Medical Faculty—1836-7.

nia stands next in rank, furnishing 776, or nearly a fourth. The two make up more than half of all who have graduated.

4th. If we estimate one physician for every thousand inhabitants, and take the population of the United States at 15,000,000, we have 15,000 practitioners, nearly five times as many as have been graduated in the University of Pennsylvania from its commencement. Let us suppose that twice the number have been graduated in all the other schools of the Union, and still we have had from the *beginning*, but three-fifths of the number now actually employed. It follows, then, that a vast majority of our practitioners have been, and still are, *technically* imperfect in their professional education. Beyond a doubt, many of them have become useful and even distinguished practitioners; but had their education been complete, their success would have been still greater. In this matter we differ very widely and unfortunately, from those kingdoms of Europe, in which no student is allowed to practice till he obtains a diploma.

5th. In looking over the catalogue we observe that a large proportion of those who have founded, or been called to other schools, have been *alumni* of the University of Pennsylvania, which may be emphatically styled *alma mater magna*—a mundane CYBELE—may her *Corybantes* never lose sight of their high responsibilities.

Appended to the catalogue, is a historical sketch of the institution, which will be read with interest by every graduate. Two schools originally existed in Philadelphia, the "College of Philadelphia" and the "University of Pennsylvania." It was not till the year 1791, that they was combined under the title of the latter. The first united Faculty was composed of the following persons:

Professorships,	Professors.
1. Anatomy, Surgery, and Midwifery,	DR. WILLIAM SHIPPEN, and DR. CASPAR WISTAR, Adjunct;
2. Theory and Practice of Medicine,	DR. ADAM KUHN;
3. Institutes of Medicine, and Clinical Medicine,	DR. BENJAMIN RUSH;
4. Chemistry,	DR. JAMES HUTCHINSON;
5. Materia Medica,	DR. SAMUEL P. GRIFFITHS;
6. Botany and Natural History,	DR. BENJAMIN S. BARTON.

We have only room to enumerate those who subsequently held appointments, or are now in office:—Dr. JOHN CARSON,

who died before he officiated; Dr. PHILIP SYNG PHYSICK, Dr. JAMES WOODHOUSE, Dr. NATHANIEL CHAPMAN, Dr. JOHN REDMAN COXE, Dr. JOHN SYNG DORSEY, Dr. THOMAS C. JAMES, Dr. ROBERT HARE, Dr. WILLIAM GIBSON, Dr. WILLIAM E. HORNER, Dr. WILLIAM P. DEWEES, Dr. SAMUEL JACKSON, Dr. GEORGE B. WOOD, Dr. HUGH L. HODGE.

We shall conclude this notice with two or three *reflections* on the institution, which, we hope, will not be thought presumptuous or irreverent, although made by a son residing in the *Backwoods*.

The Medical Department of the University of Pennsylvania, has done much for the medical profession of the New World; she is deservedly respected in the Old; and, notwithstanding the constant rise of other schools, maintains herself, it appears, at the average number of 400 pupils. Still, it must be admitted, that her long continued prosperity is not entirely the result of her organization, or the manner in which *all* her chairs have been filled. Her policy has been clearly that of *conservation*. She has, at all times, been cautious. The moral power, which early and continued comparative superiority placed in her hands, has not been put forth upon the profession, with as much enterprise as might have been expected. The original error (admitted to us twenty years ago by one of her ablest professors) of limiting her session to four months, has never been corrected, as it might have been —as she might now correct it with a stroke of the pen, and see her example followed throughout the Union. Her present scope and arrangement of the branches of medical science is essentially the same with that of 1791. She has not with freedom and facility, adapted herself to the improvements of the last forty years. When her ample halls were more thronged than they had ever been before, she so far forgot herself as to oppose the establishment, in Philadelphia, of another school by her own graduates. Her precepts have never been rash, but not always wise and exciting. Finally, her career has presented little of the positive to condemn, but less to admire than could have been wished. To expect that any intimations from this distant point, will modify her policy, or animate her efforts, would savor of vanity; and still we cannot forget, that the passive-

ness of a parent has sometimes been overcome by the impulsive suggestions of the child; and that hints from the humble, have occasionally exerted a salutary influence on the most exalted.

In conclusion, we would notify to all our fellow graduates, that the Faculty are desirous of putting each of them in possession of a catalogue, and that whoever sends his name and address to the Dean, will be supplied. D.

ART. II.—MEDICAL PROCEEDINGS IN THE STATE OF CONNECTICUT.*

We are indebted to Dr. CHARLES HOOKER, Secretary, for these pamphlets. They present the medical gentlemen of the ancient and orderly state of Connecticut, as organized by legal enactments into a corporate body, which, within the last year, has been exerting itself (we understand successfully) to prevent a relaxation in the laws prohibiting quackery. In his accompanying letter, Dr. Hooker asks, why we do not unite in a similar way in Ohio? The answer is, that for twenty years from 1810 or '11, there was a law regulating the practice of physic in our state, and that it was repealed from a conviction on the part of our legislature, generally concurred in by the profession, that it was unproductive of good. The people are fond of quackery, and in every instance, as far as we know, in which an attempt was made to enforce its penalties, they took sides with the empyric. The societies, district and state, which it created, were succeeded by the *voluntary* MEDICAL CONVENTION, which met at Columbus in January, 1835, and is to meet again on the first Monday of January next. The important proceedings of that convention were made known to the public by this journal. We trust that the next meeting will be attended by a still larger number

* Proceedings of the President and Fellows of the Connecticut Medical Society, in Convention, with a list of the members, for the years 1834, 35, 36, and 37.

Report of the New Haven County Medical Society, on the expediency of repealing that section of the medical laws of the State, which excludes irregular practitioners from the benefits of law in the collection of fees.

than the first, and that what was so auspiciously begun, will be carried on with dignity, spirit and liberality. But let us return to the proceedings of our Connecticut brethren. Appended to those of 1837, is an address to the Annual Convention, by the very intelligent and respectable Dr. Miner, its president. Its drift is the dignity of the profession. On the subject of united effort, he holds the following just and forcible language:

"Nothing great and extensively good can ever be done in the world, without association, combination, and united effort. To this end, if the good is to be permanent, the associations must have a two-fold bearing; they must be both beneficial to the public, and to themselves. If they are not beneficial to the public, in free governments the public will not long tolerate them; and if they are not beneficial to the associations, the members will not long be at the trouble and expense of meeting. There is not, therefore, the slightest clashing between the public and all proper organized societies. Indeed, it is impossible to promote their mutual interest in any other way than by such organizations. These associations form one of the most prominent distinctions between civilization and barbarism, and no extensive improvement can be diffused without such institutions."

On the *right* of legislatures to prohibit quackery, Dr. M. thus expresses himself.

"Legislators have certainly the right to interfere, whenever the public good is at stake; and it is their main business to protect individuals, where individuals have not the power to protect themselves. They protect from fraud and imposition, as well as from other injuries, by placing barriers against dishonesty. Thus, they either do, or may, direct the inspection of every kind of provision, lumber or other article of merchandise, before it can be lawfully exposed in market. They direct the examination of all officers of the army and navy, previous to their receiving commissions. In most countries, they examine the qualifications of gentlemen of the bar, to prevent clients from being imposed on by pettifoggers. They commonly insist upon the examination of teachers, before they can become lawful instructors. In most parts of the civilized world, even a common trade cannnot be exercised, unless the master has complied with certain forms, which amount to a strict examination.

"All these regulations are designed for the benefit of the people in general, and not directly for the benefit of the trades or professions. It is supposed that individuals could not have time, if they possessed sufficient knowledge, to examine the quality of every barrel of flour, beef, pork and fish that they buy, before purchasing them. Nor is it wished to have the client lose his suit, to discover that he has employed an incompetent advocate; or for schooling to be found to be worse than useless, from having employed an incompetent teacher.

"I can see no reason, why the health of the community, and consequently public protection against ignorant and unprincipled pretenders—for pure quacks, whatever good qualities they may sometimes possess, from the very nature of the case must always be knaves,

since they only flourish by the falsest pretensions and most barefaced impositions—are not a subject of legal regulation, as much as the army, navy, schools, trades, manufactures, and in a word every other matter, in which individuals are either unable or indisposed to protect themselves.

"Besides, no power on earth can give a quack or other impostor a *moral right* to his fraudulent gains; should the state, therefore, from mistaken policy, legalize his claims, it would amount to granting a bounty to dishonesty, and as far as it goes, would serve to sap the principles of morality. It is impossible to change the moral aspect of empiricism, or of any other fraud, whatever may be the supposed policy, as to legislative interference. A quack cannot be converted into an honest man, by any law whatever, much less can he be made learned against his will."

We hold it impossible to gainsay these observations, and wish they could be carried home to every legislator, and, what would be more important, to every constituent. But, to reach the people, physicians must simultaneously exert their influence. Hear what Dr. M. says on this subject:—

"One part of the duty of professional men, and that by no means the least, is to instruct and inform the public mind. Professional men are a kind of missionaries in the civilized world. In the division of labor, not for their own benefit, but for the public good, they are the great teachers of mankind. It is the practice of all legislative bodies occasionally to consult them, and it is just as necessary to obtain the opinions of physicians before making laws for preserving health, as it is to advise with merchants, manufacturers and mechanics, concerning their several departments. It devolves upon our profession to teach the public the nature of quackery, and to expose the absurdities and dishonesty of empiricism. This duty is now peculiarly incumbent upon *us*."

The Report of the New Haven County Society is principally directed against the repeal of the law which is designed to embarrass, if it cannot suppress quackery, by refusing legal process to quacks for the collection of their *professional* fees. As a specimen of the manner in which the subject is treated, we give this extract:—

"The reason that imposition is so easy and successful in medicine, is to be found in the general want of information regarding the nature of disease, the operation of remedies, and the powers of the human system. As a consequence, the skill and knowledge of a physician must, for the most part, be taken upon trust, except so far as evidence is to be obtained from his general character and acquirements. There is no subject which, by the mass of mankind, is so rarely made a matter of general study and investigation, even in its elements, as medical science; while, at the same time, there is no subject regarding which men so universally consider themselves adequately informed, in all its practical applications, as this same medical science. This want of knowledge, unfortunately not felt as a *want*, we deplore,

because worth in our profession is, as a consequence, imperfectly appreciated, and because ignorance and impudence thereby gain an advantage of the utmost importance. It is well known, that the arts of intrigue, and the no less potent art of puffing, will oftentimes procure occupation and a name, when unpretending merit is left to perish unnoticed. This fact is well illustrated by the sudden and full employment frequently obtained by itinerants and adventurers without character or merit, and of whose vaunted skill and cures we know nothing, except what is to be found in a pompous advertisement or handbill."

The latter part of the Report is directed upon *Samuel Thompson*. It appears that one of his agents, in the WEST, in three and a half years sold patent rights to the amount of $80,000!! A most liberal reward by the good people, for *permission* to inflame their stomachs with cayenne pepper, cloves, ginger, and alcohol. By the way, there can be but little doubt that the stimulus which Thompson recommended, was the great secret of his popularity. As our temperance societies rendered drinking unpopular and disreputable, a course of medicinal stimulants came in very opportunely. "No. 6" indeed, took the place of our favorite old whiskey, and men and women excited themselves by the advice of the general government! All hail, the march of mind! D.

ART. III.—MEDICAL SCHOOL OF FAIRFIELD.*

GREAT as may be the distance between Cherry Valley and the Valley of the Mississippi, not a few of our readers are interested in the medical school which the former embosoms. The great northern wave of immigration annually brings into the states of Ohio, Indiana, Illinois and Michigan, many *alumni* of the *comparatively* old institution at Fairfield; and to them we would say, that from the catalogue before us, their *Alma Mater* seems to be healthy and prosperous. The number of last year's class was 164; of whom 30 received diplomas in February last. So small a dividend indicates that the Faculty are not disposed to divide any of their capital stock.

* Circular and Catalogue of the Faculty and Students of the College of Physicians and Surgeons of the Western District of the State of New York, in Fairfield, Herkimer county, 1836-7.

It is creditable to the professors of Fairfield, (several of whom are not unknown to fame,) that they are able in a village to attract larger classes than their brethren of the *great* city, who have over them so many natural and statistical advantages.

We observe a recommendation to students to attend the lectures of the institution at the *beginning* of their studies. Why do not students every where commence their studies with a course of lectures, especially on Anatomy,—special, general, and morbid,—Physiology, Chemistry, Pharmacy, and the Natural History of Medicines? We venture to affirm, that more progress would be made in one winter, by a pupil who should pursue this course (taking care to dissect at the same time,) than by twelve months of the most laborious office study. Why do not students realize in anticipation, that the time devoted to Anatomy and Chemistry, by books alone, is almost thrown away? Why do not fathers open their eyes to this undeniable fact? In all our schools a student has to pay but twice for his tickets, and would not therefore increase his expenses on the plan here proposed, except by travelling to and from the institution. Unless when boarded and lodged in his father's house, he could live as cheap near a medical school, as in the neighborhood of a private preceptor. Even private preceptors would find their advantage in what is here recommended, as they could carry forward their pupils through the higher branches with far greater facility, after they had gotten an introduction to the lower, by the aid of demonstrations and experiments, than without such preparation. D.

Art. IV.—Private Anatomical School at Auburn, New York.*

Every teacher of the theory and practice of medicine, must have had occasion to lament the defective state of anatomical

* Introductory Address and Catalogue of Students attending the Annual Course of Lectures on Anatomy and Surgery, delivered by F. H. Hamilton, M. D. Auburn, 1837.

knowlege in which pupils are sent up to him to be instructed in pathology; and all will feel gratified, at every additional effort to impart a better understanding of anatomy and physiology to our medical novitiates. The private school of Dr. Hamilton, in this beautiful village of New York, (we recollect it as beautiful,) is of this kind. His class of last autumn numbered 43, the names and residences of the whole of whom are printed. Such an establishment must do much good to the students of the surrounding country, and ought to be encouraged by every physician who lives near enough for his students to visit Auburn. We regret, however, to read in the Address, that the lecturer is under the necessity of limiting his demonstrations to colored engravings, preparations, and dissections in comparative anatomy. Much may, it is true, be done by these instrumentalities; but the dissection of the human body would, of course, be incomparably better;—and is it possible, that the people of the Great State are so delivered over to prejudice and superstition, as to interfere with the only true and successful method, of studying one of the most important of all the sciences? Why do not the governors of the Auburn Penitentiary, make it subservient to the cause of medical science? Why do not the citizens unite in facilitating, for anatomical purposes, the acquisition of the bodies of those who die without friends?

The Address of Dr. Hamilton shows him to be a man of sense; and, what is not less important in a public teacher, of devotion to his object. The following page contains views which do him credit:—

"The position we hold, and which, if we stood alone, we should steadily maintain, is, that pathological anatomy is the only basis of correct theory; the chart and compass of successful practice; and that as well might the mariner dare the dangers of the ocean without a helm, as the physician enter his profession without an ample store of pathological knowledge. He may, indeed, with caution, lurk along the shore, when the winds are low and the sky unclouded, and save the few whom the late tempest has thrown within his reach, but can never venture forth with boldness to rescue those who are yet rudely rocked by the tempestuous winds, when the storm and the night are dark. We do not allow, in this matter, every man to judge; physicians only, and of these a limited number, are competent; because physicians only, and of these *not many*, are conversant with anatomy and pathology; and we hold no man competent to judge or censure an opinion with which he has not, neither can have, any acquaint-

ance: and we could wish that with such men, the reproof once given to a superstitious bigot, indulging in vague invective against the doctrines of a certain unpopular author, might produce a similar effect; on being asked whether he had read the work he so much derided, he was suddenly struck dumb, and became fired with silent resentment. But such is not often the happy effect. Men ignorant of that with which they are conscious they should be acquainted, generally assume an appearance of knowledge and vast show of argument, which to those unacquainted may have such a seeming. Hence the argument, plausible enough, but unfounded, that the science of anatomy cannot guide us to the measure or kind of medicine we should administer; the mode or time of its exhibition; which argument we meet with the broad assertion of its falsehood, and are prepared to support the assertion by a series of demonstrations in the course, to which this lecture is introductory. We shall also not fail to show by the same demonstrations, that the practice of the pathologist cannot but be more successful than that of the mere experimentalist. Who will be the most successful chemist, he who merely throws together the ingredients, and observes the fermentation and decomposition which ensues, or he who examines the elements and ascertains by actual analysis what are the primary constituents of the substance acted upon, and infers from their form and character the exact kind and amount of the chemical required to act most forcibly and certainly?

If any are silly enough to contend that pathology and physiology alone are necessary to the physician, and that these may be acquired without a previous intimate acquaintance with anatomy, we are only amused at their ignorance. How can a man learn the function of an organ and the manner in which that function is performed, unless he first learn its form and structure? or how can a man be taught what appearances are diseased, unless he first be taught what appearances are normal and healthy?"

Writing at so great a distance from the theatre of Dr. Hamilton's labors, we cannot hope to benefit *him*, but the promulgation of this notice in the WEST, may give effect to his example in a region where it may be followed with fewer obstacles, we believe, than he is encountering; and should this opinion prove to be well-founded, we shall not have written in vain.

In reading the proof sheet of this article, the thought occurs to us to notify our country friends that Professor McDowell is engaged in making plaster casts of the organs of the abdomen, chest, and cranium; and would be able to furnish them to any one who might apply. They would be particularly valuable in academies, male and female, where an outline of anatomy is taught.

D.

ART. V.—THE WILLOUGHBY MEDICAL COLLEGE.*

IN a former number of this journal, we made mention of the new institution, of which a further account is contained in the pamphlets we have just quoted.

Forty years ago, the celebrated French traveller, VOLNEY, after visiting the West, wrote down in his travels, that of the whole, he would "*prefer to live, a hundred years hence, on the margin of Lake Erie.*" At that time, we believe there was no settlement on the lake shore west of Erie, in the State of Pennsylvania. The progress of society and improvement, has been such as to show, that the French philosopher looked at this country with a prophetic eye. Towns and institutions have already sprung up on the shores of the lake and the little rivers which descend from the summit level of our State, as if by *spontaneous generation*. Among them are the village and University of Willoughby.

The catalogue of officers and students which now lies before us, presents the names of five medical professors—Drs. ACKLEY, TROWBRIDGE, PEIXOTTO, CASSELS, and SMITH, (every school must have a Smith,) and a class of 51 pupils, which, for its locality and infancy, may be regarded as promising. The fees amount to $60. The length of session and the requirements for graduation, are substantially the same as in the other schools of the United States. A capacious and well-appointed edifice has been erected, and nothing but perseverance would seem to be necessary to success.

The introductory lecture of Professor Peixotto, is a respectable production; abounding in just, and, to his pupils, exciting reflections. His theme is the institution, with a peroration on several ancient and modern luminaries of the profession, including his preceptor, the late distinguished Dr. David Hosack, of New York.

As he passes on, he makes the following quaint but appropriate observation on empyricism:—

"I know too well from past experience, that no positive law can

* Catalogue (No. 4.) of the Officers, Professors and Students, of the Willoughby University of Lake Erie, in Willoughby, Cuyahoga county, Ohio, 1836–7.

Introductory Lecture delivered at the same, at the opening of the session of 1836–7, by Daniel L. M. Peixotto, M. D., Professor of the Theory and Practice, &c.

reach or grasp the slippery eels of quackery. They will glide from under the touch, and continue to pollute the earth with their venom and slime. But if they cannot be directly crushed by state enactments, a healthful public opinion may disarm them and hurl them into the hiding places whence they should never have been allowed to emerge."

In referring to difficulties with which the trustees of the institution, while in its formiug state, had been compelled to grapple, he makes the following remarks, which are applicable to other institutions than his own :—

"Over the early history of the institution, the vexatious disappointments of the Trustees, and their subsequent failure for a time, it is most prudent to cast a veil. Few indeed are the undertakings of man which are not destined, more especially at their outset, to encounter obstacles, and to be threatened with utter failure. An indomitable spirit bent on public good, can and will overcome all resistance. Insidious foes lurking and prowling about with honey on their lips, but gall and wormwood in their hearts, may for a while raise their hydra heads, and pour forth their vituperative denunciations, but the light of the cloudless sun does not shed its vivifying rays with more certainty to adorn and enrich this globe, than truth must and shall prevail over foul mouthed slander and impotent malignity. The clouds, that erst darkened over the horizon of this institution, are dispelled,—and the evil-eyed prophets, who assumed the gratuitous responsibility of asserting that this very edifice, in which we are now assembled, would never be erected, have now the mortification, so painful to themselves, so gratifying to the friends of science, to see its ample accommodations, scarcely surpassed in any section of the Union, thrown open to the public view and use."

We extract another sentence touching a different matter :—

"*Ex cathedra* assertions may be listened to with respectful silence in the lecture room, but in the retirement of his closet, the student will, over his books, analyze all he has heard, and separate, with intuitive precision, gratuitous declamation from sound reasoning, and exaggerated assertions from simple natural facts."

It would be pleasant to believe, that students of medicine are accustomed thus to analyze and depurate what is funnelled into their ears, by boisterous and declamatory teachers ; but we fear that very few of them practice that kind of chemistry. The *ex cathedra* falls with authority upon too many young minds. Our students should not be trusted to in this matter. It is for the guardians of our schools to interpose their power, and preserve the *cathedræ medicæ* from superficial declaimers, as well as dull and drowsy systematists.

On a former occasion, we have expressed the opinion, that the lake country in the West should have a medical institution ;

but added, that Cleveland, from its greater size, would seem to be a better site than Willoughby. We shall not, however, pursue this idea, but, leaving it with our friends in that portion of the State, conclude this hasty notice, with our best wishes for their success, and the assurance that as long as they labor to raise their school to a high and still higher level, they will find us ready to "lend a hand," however feeble, to its elevation. D.

Art. VI.—Medical Department of Transylvania University.*

It is not our design to plunge into the controversy which has unhappily arisen, among our *quondam* colleagues, in "Old Transylvania;" but her numerous and respectable graduates, many of whom are readers of this Journal, and live in remote quarters of the interminable West, have a right to expect some information (*ætiological* if no more) on the convulsions which have agitated her. We have been constant, and (hope) impartial readers of the various publications, and have, moreover, had opportunities of conversation with some of our friends of both parties; we have, thus, as we suppose, acquired such an insight into the matter, as qualifies us to write upon it a historical paragraph.

It appears that, consulting what they regarded as the interest of the school and the profession, rather than that of the people of Lexington, by whose liberality it had been founded and cherished, the professors, early in the year 1836, came to the unanimous and confidential conclusion, that it ought to be transferred to Louisville; there to be and remain a branch of Transylvania University, bearing her name and acknowledging her sceptre. Thus a *new* school was not contemplated, but a better location; and no other institution could, as they supposed, be reared up at Lexington, as there was no legal

* Numerous handbills, pamphlets and newspaper communications.

authority for such an establishment, but that confided to the Transylvania trustees. It is admitted, that all the professors had the impression, that the trustees, or, at all events, the legislature, had the power to direct this transfer; and it seems to have been hoped, that the people of Lexington, of whom the board is chiefly composed, would acquiesce. In the course of the following autumn, the subject was broached to certain influential citizens of Louisville, and assurances were given by them, that the city authorities would make a liberal appropriation for the accommodation of the Faculty. By this time, however, the project had become known in Lexington, where it created a degree of excitement as violent as it was natural. This excitement seems not to have been fully anticipated by the professors, and was, evidently, most unacceptable to such of them, as had spent their lives among those in whom it had been raised. The trustees, several of whom are eminent jurists, immediately arrayed themselves against the measure; and without hesitation declared, that the *legislature had not the power to abolish any of the franchises of the charter; that if the object were prosecuted, the whole Faculty should be dismissed, aud another appointed; and, that Lexington would maintain a school, notwithstanding Louisville might establish one.* Under this state of things, the professors separated from each other, in their future plans. Three of them resolved to remain in Lexington, and three to prosecute the formation of a school in Louisville, under a new charter. A very violent state of personal animosity now sprung up, appeals were made to the board of trustees, charges and counter charges were preferred, and recriminations were piled on criminations, proportionately to the friendships previously existing.

In the month of March last, the board took the matter seriously in hand, and after such an inquiry as they conceived proper, dismissed one of the professors, and declared the chairs of all the rest vacant. Soon afterwards, the three, Drs. Dudley, Richardson and Short, who had seceded from the Louisville project, were reinstated, and the other three, Drs. Caldwell, Cooke, and Yandell were left to its prosecution.

Under our subsequent head of original intelligence, the reader will find a notice of what has since been done, by the respective parties, in the work of re-organization. D.

Art. VII.—Acclimation—Temperance in the South—Medical College of Louisiana.*

When man changes his climate, he must change some of his habits. Professor Barton, in his Lecture on Acclimation, has undertaken to inquire what changes should be made by the emigrant from the North, when he comes to reside in Louisiana. To this inquiry, he has brought a good stock of medical erudition, and the experience of many years spent in the interior of Louisiana and in New Orleans. Without attempting an analysis of his lecture, we shall present his conclusions, as they seem to us to be just, and deserving of extensive dissemination.

"I have no hesitation in expressing my belief that the error of the counsel given to those going South, to employ stimulants to counteract the supposed debilitating influence of a warm climate, (which has no mean authority for its advocacy,) has arisen from confounding the effect of the long continuance of heat, with that of first impressions—the one bearing, often calling for stimulants—the other, (proceeding directly from the stimulus of heat,) adding to and heightening all the injurious effects of a hot climate. This fatal error has carried millions to the grave, and will continue to do so, until men reason rightly from effects to causes. Experience upon this subject lends its important aid, and confirms the value of the theory; a few references to illustrative authority will not be out of place."

The distinction recognized in this paragraph, is undoubtedly well founded. His views, in detail, will be seen in the follow-pages:

"There are certain Hygienic rules to be followed during the process of acclimation, which time permits me only very briefly to advert to—in the careful observance of which, individuals are enabled to resist morbific climatural influences they are unavoidably exposed to. They prescribe certain regulations with regard to DIET, DRINKS, CLOTHING, HABITS OF LIFE, &c.

"This is not the place to descend to much detail into these circumstances. They will come in more appropriately at an early period of our course. I shall then merely fill up, in a general manner, the outline I have sketched.

"The kind of *diet* required during the *process of acclimation* is clearly inferrible from the position laid down with regard to calorification, and has been, in general, mentioned. It is to be of the lightest

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* Introductory Lecture on Acclimation delivered at the opening of the third session of the Medical College of Louisiana, by E. H. Barton, M. D., Professor, &c. New Orleans, 1837.

A Discourse on temperance and the applicability of stimulants in a warm climate, delivered before the New Orleans Temperance Society, by E. H. Barton, M. D. 1837.

kind, of plain unirritating vegetables, of little animal food during the first summer, and that fresh, and avoiding much indulgence in salt food. The advice of using salt food in hot weather, given by a distinguished professor, now no more, has cost thousands of lives, some to my own personal knowledge. The second summer a little more freedom may be indulged. After acclimation, a more generous living is advisable. I have little doubt that good living is conducive to health, as giving that degree of tone to the system that enables it to resist the influence of morbific causes.

"The same general principles are applicable to DRINKS, absolutely forbidding those of a stimulating nature, as increasing the range of those organic actions, and particularly those of the gastric system, already over-stimulated by the climate. Bland and acidulated drinks, (where they agree,) and the Seltzer water, are highly refreshing and proper. The consequences of indulging in stimulating drinks in a warm climate have been recently shown on another occasion.* The indulgence, particularly the intemperate use of ardent spirits, retards acclimation, multiplies the changes of febrile excitement, and lessens the prospect of passing the acclimating fever with safety. It has been shown in the address just referred to, that they act in a direct line with, and aggravate all the injurious influences of a hot climate and season. This influence was exhibited in a remarkable manner from the records of the Charity Hospital, (the only data of the kind in this country.) From these, it appears that the mortality in that house, in 1835, amounted to 1226; of these, 940, or four-fifths! were produced by intemperance, and that only nine of this number had passed through their acclimation! a more pregnant and condemnatory fact of the use of stimulating drinks in a hot climate could not be cited. I know of no circumstances in which they are *necessary* for health, whether from exposure to wet, heat, or fatigue, and believe them to be injurious and only a counterfeiter of good in all.

"CLOTHING must be adapted to circumstances, bearing in mind the general principles, and that the surface is the great avenue to disease. A corpulent individual will require less than a spare man. If exposed much to the sun with a liability to perspire freely, increased susceptibility is produced. Hence that kind of clothing is requisite, which, though light, is a bad conductor of caloric, for the heat of exposure to the direct rays of the sun is greater than that of the human body. If the occupation does not exact such an exposure, or loss of fluids by perspiration, then light cool clothing is clearly called for.

"With regard to the HABITS OF LIFE, the errors have not been less serious than extensive: I cannot stop to enumerate them in detail; they may be inferred from the advice I am about to give. *Early rising*, to enjoy the delightful freshness of the morning breeze, is highly conducive to health. An early breakfast is the only 'fortifying' the stomach requires.

"*Exercise* is of great importance in this climate. It should be taken during the early morning and evening hours, avoiding the mid-day sun. The night air is only injurious to those who have been exposed much to the sun and excessive perspirations during the day; otherwise it is grateful and safe, particularly if in motion, carefully avoiding the extent of chilliness. Probably there is no habit more universal,

* Vide Address "on the applicability of stimulants in a hot climate," by the Author.

or that would strike a stranger more forcibly on visiting this country for the first time in summer, than the general habit of setting out and indulging in the evening air, (and particularly in this city,) and with perfect safety, under the restrictions just laid down, in defiance of all the predictions of the miasmatists.

"There is no habit more eminently promotive of health and long life, and as a preventive to disease, than the free use of the BATH. Believing that the main avenue to climatural disease to be the surface, that its appearance is the main index to the condition of the individual —the protection of that surface—the fortifying it against the inroads of morbific impressions, which are principally through the medium of the atmosphere, to which it is constantly exposed—the removal or modification of that sensibility and impressionability, upon which its susceptibility depends, surely cannot be over-rated. This is done by the purifying and cleansing process of the bath—opening the clogged and exciting the torpid capillaries, giving tone to the surface by its temperature and quality, and by frictions with the flesh brush. They should be daily administered."

In his TEMPERANCE DISCOURSE, the Professor displays a commendable zeal, and an intimate acquaintance with the subject; which he treats physically, morally and statistically, in a manner that does him credit, and cannot fail to be useful, in a city where, according to his estimates, the expense of drinking amounts, annually, to near seven and a half millions of dollars! This sum, however, embraces the consequences of drinking. But our limits do not permit us to travel through his details; and we shall dismiss the subject, by transcribing the happy peroration with which his discourse is concluded:

"With what a brilliant vision do you clothe the future with regard to this portion of our happy country—what makes it so? You complete the outline in having the country filled with an enlightened population—the forest subdued—the land cleared, drained and cultivated—canals and railroads giving every facility of intercourse: but, you will have the same burning sun, the same vicissitudes, the same moisture—and will not the same habits produce the same effects then as now? Will not ardent spirits have the same influence in increasing the liability to climatural disease, and augmenting every malign influence of position? Your vision, then, of the future, instead of being of joyous anticipation, with the growing influence of this vice upon us, should be one of the most sombre melancholy; for increase of population, under such circumstances, can only produce increase of mortality and crime. But what a splendid contrast opens to the eye of the philanthropist and the christian of this country, with a change of habits and all the happy consequences I have shown to flow from it. What a delightful relief, to see the springs of life, feeling and intelligence renewed on every hand: health, industry and prosperity glowing around us; and the altars of domestic peace and love rekindled in every family. America and her institutions are the last hope of the world. It is one of the great resources left her for paying off, to the old world, the large debt incurred for the benefits she has derived from her literature, her arts, and her sciences. But I am at fault; my

language is of the future, while my data are of the past—the set-off has been registered—the claim allowed—the acquittance granted. The debt is extinguished, and a heavy balance has been entered to the credit of American philanthropy and benevolence."

Of the progress of the MEDICAL COLLEGE OF LOUISIANA, we are not well informed. By a circular attached to the Lecture on Acclimation, we learn that the present professors, are Drs. STONE, BARTON, HARRISON, JONES, MACKIE, and RIDDELL; the last of whom, a chemist and botanist of solid science, was lately an adjunct in the Medical Department of the Cincinnati College, and is advantageously known to the readers of this Journal. The experiment of establishing a medical school, as far south as the latitude of New Orleans, has not before been made, since the reign of the Ptolemies, at Alexandria; where the *first* dissections of the *human* body were made by Herophilus and Erasistratus. Our friends in New Orleans, rest their hopes of success upon the extraordinary opportunities for dissection which that city affords. May their fame equal that of the philosophers of the Nile. D.

ART. VIII.—THE AMERICAN CYCLOPÆDIA OF PRACTICAL MEDICINE AND SURGERY.

We have already noticed this valuable publication. Not having lately received a number, we wrote to the enterprising Editor, Dr. Hays, and learned, with regret, that its publication has, for the present, been suspended for want of patronage! Completed, this work would, of itself, be a respectable medical library; and being compiled by physicians of our own country, its precepts would have an applicability to the diseases we are called upon to treat, which could not be found in foreign digests, however learned. Why then should it be suffered to languish—perhaps expire? Our brethren have certainly not opened their eyes to its value, and to the duty of encouraging a work, which, finished in the manner it has been begun, would do credit to the American profession. In-

deed, it is the only kind of publication, that can present to the old world, the discoveries and improvements of the new; and every American physician, therefore, has an interest in its completion. We respectfully call upon our brethren of the periodical press, to unite in our humble endeavor to arouse the practitioners of the United States, to an efficient encouragement of this undertaking; the failure of which, may discourage any similar work for many years to come. D.

ART IX.—BELL'S AND DUNGLISON'S MEDICAL LIBRARIES.

THESE publications, running parallel to each, are in regular, and, as far as we can discover, healthful progress. We trust they are widely disseminated. As far as we have looked into them, the selection of European works is made with good judgment—referring to the wants of the American profession; while the price, including the postage, is actually much lower than the same works could be obtained for, from the booksellers. Many of them, indeed, have not before been reprinted in this country.

The title of Dr. Bell's publication, the older of the two, is the "*Select Medical Library, and Eclectic Journal of Medicine*," published by Haswell, Barrington & Haswell, Philadelphia.

That of Dr. Dunglison, the "*American Medical Library and Intelligencer*," by Adam Waldie, of the same city. D.

ART. X.—THE PHILOSOPHY OF MEDICAL INVESTIGATION.*

THE Cincinnati Medical Society was chartered in the year 1831. Throughout the winter its meetings are weekly. Pa-

* Oration on the Guidance of a Sound Philosophical Spirit in the Investigation of Medical Science, read before the Cincinnati Medical Society, January 4, 1837. By John P. Harrison, M. D., Professor of Materia Medica in the Medical Department of the Cincinnati College. Printed by order of the Society.

pers are read and discussed, and its debates are occasionally animated, comprehensive, and instructive. In the autumn of 1836, Professor Harrison was elected to deliver its anniversary oration, the title of which we have just transcribed. The Professor is *now* one of the editors and proprietors of this journal, but as a notice of his discourse was crowded out of the last number, when he had no connexion with the journal, a colleague may be excused for saying of it still, what he would then have said, that it abounds in just views and most salutary advice. We shall take, at random, a page which denounces, in appropriate terms, the practice of men of genius, in manufacturing premature generalizations.

"Owing to excessive facility of belief, the crude notions of Brown, became at one time the pathological ground upon which diseases were treated. This bold, original, speculative genius, peremptorily announced, that under his plastic hand, medicine, which had hitherto been mainly conjectural, was now to assume the grandeur and solidity of a certain, demonstrable, enduring science. And how was this most desirable result to be obtained? By the creations of his own imaginative mind, independent of observation and experience. Thus did he exemplify the justness of the critical animadversion of Bacon, directed against the vicious mode of philosophizing which obtained among certain ancient sophists, whom he designated as 'men who searched for truth in their own little minds, not in the great world without them.' In more recent times, the ultra views of Broussais have been too eagerly received, indiscriminately adopted, and acted upon, by many medical men. It augurs well for our science that the confidence of the profession in such all-embracing views of disease is rapidly subsiding. Even the students of medicine, who attend our medical schools, from the prevalent tone of thinking in society, and from the lessons of a correct mental discipline, are every day passing adjudication, in their own minds, in favor of those teachers who, with their doctrinal expositions of disease, interweave practical illustrations. We cultivate a directly practical art—we pursue, as physicians, a calling which brings us every day in direct contact with the lives of our fellow-men. Any scheme of doctrines which stands alien and apart, in solitary grandeur, like the pyramids in the desert, from these practical applications to which every truth in medical science ought to be made to bend, should be looked at with philosophical distrust by every mind, intent on the discovery of truth, and that desires not to lavish its powers upon barren speculation and sterile generalities. I am aware that students of medicine are not always capable of appreciating the discussion of general principles, although such general principles are absolutely essential to a just and philosophical understanding of disease. Let general principles be thoroughly discussed, till the light of a most lucid exposition be made to pour its lustre upon those doctrines, which lie at the very foundation of all enlightened conceptions of morbid action. But should there arise in any part of the wide field of medical doctrines, a destitution of those proofs upon which the teacher should rely for the verity of his doctrinal statements;—should

he, for instance, lay down a certain pathology of disease as true, and then, after such an abstract position fail to adduce proofs from the symptoms, treatment, and post mortem appearances of persons dying with such disease, that his theoretic principles were just—then let him forego the delights of such entertainment of fancy—and either quickly supply himself with better views, or candidly confess his ignorance. 'It ought to be inculcated upon all men,' says a French writer, 'that next to the positive knowledge of things which may be known, the most important science is to know how to be ignorant. 'I don't know,' ought to be the frequent answer of all teachers to their pupils, to accustom them to make the same answer without feeling ashamed.

True philosophical scepticism is never ashamed to confess the want of knowledge, where there is no proof offered. It can wait—it will wait—most patiently, for that proof, and not till it is obtained, does it abandon the sure ground of doubt, of inquiry, of diligent search, to move forward to the higher ground of confiding trust. And this leads me to expatiate a little on another trait of that philosophical spirit which should guide all our medical investigations—it is the love of truth."

We hope the Society will continue its labors with an understanding zeal, and that the first-born will be followed by a numerous progeny, equally worthy of its name and elevated objects. D.

III.—ORIGINAL.

THE WESTERN JOURNAL.

E Sylvis Nuncius.

CINCINNATI, OHIO, JULY, 1837.

Art. I.—New Prospectus of the Western Journal of the Medical and Physical Sciences: owned, published and edited by the Medical Faculty of the Cincinnati College.

The undersigned begs leave to inform the profession, that he and his colleagues have become the proprietors of this, the oldest medical periodical in the Valley of the Mississippi, the eleventh volume of which is now in the press. He is happy to think, that the zeal and talents of his learned associates are likely to make the work more interesting than, in the midst of his own multiplied engagements, he has hitherto been able to render it. The editorial articles, hereafter, will be designated by the initials of their respective authors; and, as each of them is accustomed to think for himself, they will, perhaps, frequently conflict in opinion; but this circumstance will only increase the value and interest of the work.

It will comprehend—

1. Reports of cases treated in the Cincinnati Hospital, and its associate charity, the Cincinnati Eye Infirmary.

2. Original Essays, Clinical Cases, and *Post Mortem* examinations from private practice,

3. Reviews and Biographical Notices, with a quarterly catalogue of new publications.

4. Analectic articles, containing an account of new discoveries and observations, in all parts of the world where the science is cultivated.

5. The analysis of important papers in other journals.

6. Original notices and intelligence.

The matter for each volume will be arranged by an EDITORIAL COMMITTEE: the committee for the present volume are, DRS. HARRISON, GROSS and DRAKE, to whom all communications designed for publication may be directed.

The *Publishing Committee* for this volume, are *Drs. Rives* and *Drake*, to whom all letters of business must be sent *post-paid.* The TERMS of publication are three dollars, if paid during the publication of the volume, or four dolllars after its completion.

In consequence of the transfer of the Journal to its present proprietors, at a late period, this number will be issued nearly a month after its proper time.

July 20. DANIEL DRAKE, M. D.

ART. II.—PROFESSOR PARKER.

Our last number announced the departure of this gentleman, early in the month of March, for Europe; for the double purpose of visiting the great hospitals of Paris and London, and of purchasing books, apparatus and preparations, for the Medical Department of the Cincinnati College. He will return before the commencement of the next session. It will be seen by the following extract from one of his letters, that he passed safely through the perils of the ocean, and was busily occupied on the important objects which led him to encounter them. D.

"PARIS, May 17, 1837.

"Since I have been here, I have been very much engaged among the hospitals, and on other matters of medical interest. I am, indeed, employed from half past six in the morning, till half past nine in the evening. The liberality of the French government towards institutions of Science, Literature and Charity, is unparalleled. Take the ROYAL INSTITUTE OF FRANCE as an example. A decree during the reign of terror, 1793, abolished all the academies that then existed, and has existed, from the time of Louis XIII; but on the 3d. Brumaire, 1795, the INSTITUTE was founded, and divided into three classes: 1st. Physical and Mathematical; 2d. Moral and Political; 3d. Literature and the Fine Arts. Bonaparte added a fourth class, viz: Ancient History and Literature. Louis XVIII. substituted the name of academy for class. In 1832, a fifth academy was created. So they now stand, 1st. *Academie Francaise;* 2d. *A. Royale des Inscriptiones et Belles Lettres;* 2d. *A. Royale des Sciences;* 4th. *A. Royale des Beaux Arts;* 5th. *A. des Sciences Morales et Politiques.* These academies, which together compose the ROYAL INSTITUTE, embrace 217 members, and each member is paid annually, by government, 1500 *francs.* The Academy of Sciences contains 63 members, and is the largest of the five. It meets every Monday, and all improvements, or attempts at improvement in science, are referred to it, and a report is made. Majiende is the president, which is regarded by the French as the highest scientific post of honor in the world. All the branches of the Institute are sustained by the government.

Again; to illustrate the liberality of this country, take the COLLEGES, of which there are 14 in Paris. The Royal College stands at the head. This has three departments: Theology, Law and Medicine. In the department of Medicine, there are 26 professors, and each receives from government from 2 to 8,000 *francs* a year: and the students have no expense to meet for instruction. There are seldom less than 5,000 medical students in the city. To be graduated, the young man must previously have received the degree of Bachelor of Arts, and must have studied four years. He is examined, *publicly*, at the end of each year. I have attended several of these examinations.

The professors vary much in their lecture room attractions. The amphitheatre will hold from fifteen to eighteen hundred. I have seen it at the lecture of Dumeril or Broussais, with only 50; while at Cruvilhier's, Andrals, Orfila's, or Magolin's, you will find the amphitheatre crowded to overflowing.

The law department is furnished by government with professors, and students attend without charge, and obtain diplomas as in medicine. Each young man, in order to graduate, must have previously taken the degree of Bachelor of Arts.

It is said, there are between 60 and 70,000 young men here, obtaining an education at the expense of the public, and by donations.

Again; I believe this country is surpassed by no other, and I doubt very much its being equalled by any other, in the extensive and liberal provision made for the accommodation of the wounded, sick, poor and helpless. Hospitals and hospices have been provided in a manner that reflects the highest credit upon the country. Both of these establishments are under the same direction, and based upon the same fund. The former are for the wounded and sick; the latter for incurables, the poor, &c. &c. Besides, there are *Bureaus* in different parts of the city, where prescriptions are made, for such as do not wish to

enter those establishments; and, moreover, at each hospital, there is a room for the reception of out-door patients, where they are prescribed for. Biett is the great man here in chronic diseases of the skin. Every Monday he devotes from two to three hours to these patients; and I have seen 250 pass in review before him, on one of these days.

The *Hotel Dieu* has the greatest number of beds, about 1,500—others have about 100. The beds of all the hospitals together, amount to 5,337; those of the hospices to 11,740. These establishments cost the government, annually, 10,186,388 *francs*. The wards of these establishments are in very perfect order. Many of the bedsteads are of iron. They are furnished with good linen. Nor are the patients situated as in the time of Desault, when six or eight were placed in the same bed—the dead and dying together. In these establishments is employed the highest order of skill in the kingdom; and here we meet with every variety of disease. The hospital of St. Louis, where we find Alibert, Biett and Lugol, is one of much interest, as is also the Hospital Neckar, on account of Civiale's lithontriptic operations, which are carried on there. I have seen from three to six patients under his charge at one time; but I have not space to give you my opinion of his method.

I have procured, and am procuring books for our college daily; many of them the latest editions. I obtain them for one-third what we should be obliged to pay in our country. Some of the works, however, which our order embraces, are very expensive, especially Cruvilhier's great work with plates, and Alibert's on the maladies of the skin. The large dictionaries, also, are expensive.

I find instruments and chemical apparatus much cheaper in this country than in ours. I shall obtain a large assortment. The apparatus for injecting the absorbents must be got in London. I may not be able to obtain here *all* the morbid specimens we desire.

I have seen many interesting operations—have attended a course of lectures on diseases of the eye, and am attending other courses on Auscultation and Lithontripsy.

I have not seen our minister, Gen. Cass, as he is gone to Constantinople. I shall leave Paris for the south of France, Rome, and perhaps Naples, about the middle of June, and expect to be in England by the first of August. I hope every thing is going prosperously with our college."

Art. III.—Re-organization of the Medical Department of Transylvania University.

Under our analytical head we gave an account of the disintegration of the Lexington School, and stated that Professors Dudley, Richardson and Short had been re-elected, Dr. Bush being appointed adjunct to Dr. Dudley. At the same time, Dr. James C. Cross, of the *Medical College of Ohio*, a native of the vicinity of Lexington, was chosen to the Chair, lately held

by Dr. Caldwell, and accepted it. Subsequently, Dr. John Eberle, of the Ohio School, and Dr. Thomas D. Mitchell, formerly one of its professors, were elected to the Chairs of the Theory and Practice, and of Chemistry. They have accepted those stations, and the faculty is, therefore, re-organized out of materials that promise to reproduce and perpetuate its usefulness. D.

Art. IV.—Louisville Medical Institute.

Professors Caldwell, Cooke and Yandell, late incumbents of the Transylvania School, have been appointed to corresponding Chairs in the institution now forming in Louisville, under the title prefixed to this article. Dr. Henry Miller, a talented and respectable physician of that city, has been selected for the Obstetrical Chair. We understand that all these gentlemen have accepted.

From Professor Caldwell we learn, that the City Council of Louisville have made a munificent appropriation for the endowment of the Institute; and that he proposes to devote the remainder of his active life to its service. D.

Art. V.—The Medical College of Ohio.

This ill-fated institution has lately suffered the loss of half its faculty; Professors Cross, Smith and Eberle having resigned, and removed from Cincinnati. D.

Art VI.—The College of Surgeons and Physicians, of the University of the State of New York.

It appears that the Regents have commenced the work of *reform* by the election from the West, of a Professor of Surgery, in place of Dr. Stevens. We have often been astonish-

ed, in latter years, that the College should have such small classes; but the cause is at length disclosed. It was the ignorance of its professors. What could be expected of incumbents *inferior to the new appointee?*—a smatterer in Anatomy —in Surgery a mechanic; a man whose fondest friends have not claimed for him either talents or science; who is profoundly ignorant of the grammar and orthography of his mother tongue; who is *not a graduate*, and could not, *on examination*, receive a degree, *even* from the college from which he was taken, or in which he has been placed; who was elected into the former, on a recommendation designed as a hoax; who could not, and did not, sustain himself, even in *that* institution; who has been three times published as a liar in Cincinnati; and who left it without disclosing to his colleagues or the Trustees of the College to which he belonged, that he was about to decamp. It has been reported, *mirabile dictu*, that he had been *sent for* by the good people of New York, to supply the places of Mott and Bushe! Verily, to borrow an idea from Peter Pindar, medical skill must have been at a low ebb in that city, when they were driven to make *such* an importation. But New York is an importing city, and may sometimes mistake *brass* for gold. Major Noah suggests that none of *her native* surgeons might have been willing to relinquish a lucrative practice, for the purpose of taking a professor's chair in her College—implying a suspicion, that the new incumbent may not have been called upon to make such a sacrifice. He could have his suspicions converted into convictions, by enquiring of the good people of Danville, Louisville, and Cincinnati. But why should an appointment into the New York school destroy a man's practice? Only, it would seem, by degrading him. Of this sinister effect, the new surgical professor need feel no apprehensions. When the facetious Major, a few years since, in personating the Empire State, spoke of putting little Delaware into his breeches pocket, he could not have anticipated, that in 1837, one of her sons would have been called to the premiership of a university, with which, in the American mind, are associated the venerated names of Bard, Mitchell, Miller, Post, Hosack, McNeven, Francis, and Mott, *cum multis aliis*, of like dignity and reputa-

tion. We trust the Major will have the magnanimity to take back his sarcasm, *before* the opening of the College; and henceforward speak of little Delaware with becoming respect. We have not the honor of knowing the Regents of the University of New York, and can, therefore, commit no personality, when we doubt whether a man's having wandered for a few years from town to town, in the West, the "laughing stock" of the educated profession, will fit him for a professorship in their school—low as they have degraded it; but if they think otherwise, then let them elect Dr. WILLIAMS, the *Oculist.* He would probably *open their eyes* to their true position. It would be absurd for us not to admit the general superiority of the West, but powerful as are its influences, they cannot transmute eastern dunces into learned philosophers. D.

ART. VII.—HAMILTON COUNTY MEDICAL ASSOCIATION.

PURSUANT of public notice, for a meeting of the physicians of Hamilton county, Ohio, at Carthage, on the 20th of May, 1837, the following gentlemen attended, viz:—A. Smith, J. W. Dunham, Wm. Goshorn, J. B. Rogers, J. P. Harrison, S. D. Gross, D. Drake, Wm. Wood, C. Dayton, W. V. Cowan, H. C. Mann, W. Mount, L. C. Rives, L. S. Pinkerton, T. Wright, J. B. Jewett, G. S. Close, H. Cox, J. G. Eson.

On motion, Dr. Asahel Smith, of Reading, was called to the Chair, and Dr. Lewis L. Pinkerton, of Carthage, appointed Secretary.

On motion of Dr. Pinkerton, it was

Resolved, That the Association shall consist of physicians, both of town and country, and that all who are in good standing may become members by subscribing the Constitution.

On motion, Drs. Drake, Harrison and Mount, were appointed a Committee to report on the organization of the Association, who, after retiring, reported a Constitution and system of By-Laws, which, after being amended, were adopted.

On motion of Dr. Harrison, it was

Resolved, That a Committee of three be appointed, to report, at the next meeting, a code of ethical rules, by which the physicians of this Association shall be regulated in their intercourse with each other, and

with their patients. Whereupon, Drs. Harrison, Wright and Jewett, were appointed said Committee.

On motion of Dr. Drake, it was

Resolved, That the members of this Association, as far as may be consistent with their professional duties, will attend the second triennial meeting of the Medical Convention of Ohio, to be holden at Columbus, on the first Monday of January next.

On motion of Dr. Jewett, it was

Resolved, That it be the duty of each member of this Association to inform any physician or physicians residing near him of the formation of the Association, and invite him or them to attend its next meeting.

Resolved, That the President to be elected for the coming year, be requested to deliver an Inaugural Address at the next meeting.

Drs. Wright, Jewett and Mount, were appointed to read papers before the Association in July, and Drs. Cox, Wood, and Pinkerton, in October.

The meeting then proceeded to the election of officers, and the following was the result of the ballot :—

Dr. Smith, President.
Drs. Wright & Cox, V. Pr's, L. L. Pinkerton, Secretary.
Dr. Mount, Treasurer, Dr. Harrison, Orator.

By special invitation, Dr. Drake then addressed the meeting on the difficulties and discouragements of country physicians ; after which, the Association adjourned to meet in Carthage, on the third Saturday of July next, at 11 o'clock, A. M.

ASAHEL SMITH, President.

Lewis L. Pinkerton, Secretary.

Art. VIII.—Medical and Physical Works in the Library of Lane Theological Seminary.

The learned Professor Stowe of this institution, situated on the *Walnut Hills*, adjoining Cincinnati, lately made a voyage to France, Germany and England, to purchase books. On visiting the library, a short time since, we learned that it contains 8,000 volumes, written or printed in the following languages:—Hebrew, Arabic, Ethiopic, Syriac, Chaldee, Persian, Hindoo, Hieroglyphic Egyptian, Greek, Latin, Italian, Spanish, French, German, Romaic, Dutch and English. They have cost the Seminary $8,000; but many of them were present-

ed, and they are estimated to be worth more than twice that sum. The professor, being a ripe and liberal scholar, did not limit himself strictly to theology; and among the works, there are several of interest to the medical profession, some of which, as being rare in the WEST, we shall enumerate; that such of our friends as are fond of extended literary research, may know where to find them.

The Transactions of the Royal Society of London, from its foundation in 1665 to 1800; abridged by Hutton, Shaw & Pearson, in eighteen large quarto volumes.

This work contains a great number of valuable papers on medicine and its associate sciences.

Lectures on Comparative Anatomy, from preparations in the Hunterian Collection, by Sir Everard Home; in six volumes, quarto, with splendid engravings.

This work was compiled by HOME, from the MSS. of his brother-in-law, JOHN HUNTER; which MSS., as mentioned in a former number of our journal, he afterwards destroyed, that he might the more successfully appropriate the enviable and hard-earned fame of his great master, to himself!

CUVIER'S Animal Kingdom, translated by several distinguished Naturalists; with numerous additions and many plates, in sixteen 8vo volumes.

BUFFON'S Works, complete, with Anatomical Descriptions, by Daubenton, in 44 volumes, octavo, with numerous plates. French.

The last edition of SIR CHARLES BELL ON THE NERVOUS SYSTEM; illustrated with engravings far superior to those in the American editions of his works, quarto.

LIZARS' Anatomical Plates, colored, folio.

MAUD'S Botanic Garden, embracing all the Plants cultivated in Great Britain; quarto; with colored engravings; many volumes, and still in the course of publication.

SIR WILLIAM JARDINE'S Naturalist's Library; in 12mo.; extending through many volumes, with beautifully colored plates.

A Collection of Colored Engravings, with letter press, containing the Botany of J. J. ROUSSEAU,; twenty-six volumes, octavo. In French.

The Encyclopædia Britannica, and the Encyclopedia Metropolitana, more than sixty volumes, quarto, both in the course of publication.

Sketches of Bedlam, being an account of the intellectual phenomena of the most remarkable maniacs, who have at different times been confined to the London Insane Hospitals.

An Essay on the Curative Powers of Animal Magnetism, by Professor C. A. F. Kluge, of Berlin. In German.

When in Hamburg, in September last, Professor Stowe saw the learned and indefatigable Dr. Julius, whose visit to the United States, was mentioned, two years ago in our journal.

Dr. J. confirmed the report, that his extensive collection of American books and pamphlets was consumed, in New York, by the *great* fire. As a traveller of such enlightened zeal does not often visit the United States, we cannot but deeply regret the destruction of his large accumulations of our literature and science. D.

ART. IX.—MEDICAL DEPARTMENT OF CINCINNATI COLLEGE.

THE session commences the last Monday of October, and ends the last day of February.

Special and Surgical Anatomy, by Dr. M'DOWELL.

General and Pathological Anatomy and Physiology, by Dr. GROSS.

Surgery, by Dr. PARKER.

Obstetrics and the Diseases peculiar to Women and Children, by Dr. RIVES.

Chemistry and Medical Jurisprudence, by Dr. ROGERS.

Materia Medica and Pharmacy, by Dr. HARRISON.

Theory and Practice of Medicine, by Dr. DRAKE.

Dissections and Practical Anatomy, by Dr. TRIMBLE.

Clinical Instruction in the Cincinnati Hospital, by Drs. DRAKE, PARKER & RIVES.

Professor Parker, now in Europe for the purchase of additional books and apparatus, will return in October.

Dr. Trimble will open the rooms for Practical Anatomy on the 1st of October, and Professor M'Dowell will at the same time commence a preliminary course of Osteology.

EXPENSES.—Tickets of the Professors, $15 each—Matriculation, $5—Library Ticket, (optional,) $3—Hospital Ticket, $5—Anatomical Rooms, $10—total, $125. Respectable boarding and lodging can be had at $3 a week.

As we have no national circulating medium, the Faculty consider it proper to give notice, that they will receive from students, at par, the current bank bills of the different states in which they respectively reside:

By order of the Faculty,

J. B. ROGERS, Dean.

BIBLIOGRAPHICAL RECORD;

OR QUARTERLY LIST OF NEW PUBLICATIONS IN MEDICINE AND SURGERY, AND THEIR ASSOCIATE SCIENCES.

AMERICAN.

1. A Manual of the Diseases of the Eye. By S. Littell, Jr., M. D. One of the Surgeons of the Wills' Hospital for the Blind and Lame. 12mo. pp. 255. Philadelphia: 1837.

2. Principles of Pathology and Practice of Physic. By John Mackintosh, M. D., Lecturer on the Practice of Physic in Edinburgh. Second American from the fourth London edition; with Notes and Additions, by Samuel G. Morton, M. D., late Physician to the Philadelphia Alms-House Hospital, and Lecturer on Pathological Anatomy. 2 vols. 8vo. pp. 563 and 568. Philadelphia: 1837.

3. Plates of the Cerebro-Spinal Nerves, with references, for the use of Medical Students. By Paul B. Goddard, M. D., Prosector of Anatomy in the University of Pennsylvania, Member of the Academy of Natural Sciences, &c. 4to. pp. 60. Philadelphia: 1837. —*See last No.*

4. A Treatise on Functional and Organic Diseases of the Uterus; from the French of T. Duparcque, M. D. Paris. Translated, with Notes, by Joseph Warrington, M. D. 8vo. pp. 455. Philadelphia: 1837.—*See review in the present No.*

5. Illustrations of Pulmonary Consumption; its anatomical characters, causes, symptoms, and treatment; to which are added some remarks on the Climate of the United States, the West Indies, &c. with thirteen plates, drawn and colored from nature. Second Edition. By S. G. Morton, M. D., late Physician to the Alms-House Infirmary. 8vo. pp. 349. Philadelphia: 1837.

6. An Examination of Phrenology, in two Lectures, delivered to the Students of Columbia College, February, 1837. By Thomas Sewall, M. D., Professor of Anatomy and Physiology. With plates, 8vo. Washington City: 1837.

7. A Treatise on the Malformations, Injuries and Diseases of the Rectum and Anus, illustrated with nine 4to. plates. By George Bushe, M. D., formerly Professor of Anatomy and Physiology, &c. 8vo. pp. 299. New York: French & Allard. 1837.—*To be more particularly noticed in our next.*

8. A Dictionary of Practical Medicine. By James Copland, M. D. Part iii. Boston: W. D. Ticknor. 1837.

9. Address delivered before the Medical Society of the State of New York, February 8, 1837. By James McNaughton, M. D. President of the Society. Albany: 1837.

10. Oration on the Guidance of a Sound Philosophical Spirit in the Investigation of Medical Science,

Read before the Cincinnati Medical Society, January 4th, 1837. By John P. Harrison, M. D., Professor of Materia Medica in the Medical Department of the Cincinnati College. Printed by order of the Society. Cincinnati: 1837. —*Noticed in this No.*

11. Surgical Observations on Tumors; with numerous colored engravings. By John C. Warren, M. D., Professor of Anatomy in Harvard University. 8vo. pp. 600. Boston: 1837.—*To be reviewed in our next.*

12. Homœopathic Medicine, illustrating its Superiority over the other Medical Doctrines, with an account of the Regimen to be followed during the Treatment of Disease. By M. Croserio, M. D., President of the Homœopathic Society of Paris, &c. &c. Translated from the French, with Notes, by C. Neidhard, M. D. 12mo. pp. 89. Philadelphia: 1837—.*See review department.*

BRITISH.

1. The Human Brain, its Configuration, Structure, Development and Physiology; illustrated by references to the Nervous System in the lower orders of Animals. By Samuel Solly, Lecturer on Anatomy and Physiology in St. Thomas' Hospital. 8vo. pp. 492, with 12 plates. London: 1836.

2. A Treatise on Tetanus; being the Essay for which the Jacksonian Prize for the year 1834, was awarded by the Royal College of Surgeons in London. By T. B. Curling, Assistant Surgeon to the London Hospital. 8vo. pp. 236. London: 1836.

This erudite little work is republished in Professor Dunglison's excellent "Select Medical Library."

3. Experimental Researches into the Physiology of the Human Voice. By John Bishop, M. R. C. S. pp. 24, with plates. London: 1836.

4. A New and Familiar Treatise on the Structure of the Ear and on Deafness. By A. W. Webster, M.D. 8vo. pp. 151. London: 1836.

5. Elements of Medicine—Vol. 1. on Morbid Poisons. By Robert Williams, M. D., Senior Physician to St. Thomas' Hospital—8vo. pp. 342. London: 1836.

5. Elements of the Practice of Physic; presenting a view of the present state of Special Pathology and Therapeutics. By David Cragie, M. D. F. R. S. E., Physician to the Royal Infirmary, Edinburgh, &c. &c.—vol. 1. 8vo. pp. 952. Edinburgh: 1836.

Dr. Cragie's work, which comprehends an account of the diseases usually included under the heads of fevers, cutaneous inflammations, and mucous inflammations, is decidedly one of the most elaborate and erudite productions of the age.

6. Elements of the Practice of Medicine. By Richard Bright, M. D. and Thomas Addison, M. D., Lecturers on the Practice of Medicine at Guy's Hospital. Part i.—8vo. pp. 129. London: 1836.

7. Elementary System of Physiology—complete in one volume. By John Bostock, M. D. F. R. S. &c. 3d Edition, revised and corrected throughout—8vo. pp. 887. London: 1836.

8. The Principles and Practice of Obstetric Medicine, in a series of Systematic Dissertations on Midwifery and on the Diseases of Women and Children. Illustrated by numerous plates. By D. D. Davis, M. D. M. R. S. L., Professor of Midwifery in the University of London, &c.—8vo. pp. 1294. London: 1836.

9. A Practical Treatise on the Management and Diseases of Children. By K. T. Evanson, M. D., Professor of Medicine, and H. Maunsell, M. D., Professor of Midwifery in the Royal College of Surgeons in Ireland—8vo. pp. 527. Dublin: 1836.

10. The Principles of Surgery. By James Syme, F. R. S. E., Pro-

fessor of Clinical Surgery in the University of Edinburgh.—8vo. pp. 460. Edinburgh: 1836.

11. Outlines of a Course of Lectures on Medical Jurisprudence. By T. S. Traill, M. D., Professor of Medical Jurisprudence in the University of Edinburgh, &c. &c. Small 8vo. pp. 94. Edinburgh: 1836.

12. Clinique Medicale; or Reports of Medical Cases. By G. Andral, M. D., &c. &c. Translated by D. Spillan, M. D. Part v. 8vo. London: 1836.

This is the concluding number of this valuable work.

13. A Medical Vocabulary; or, Explanation of all Names, Synonymes, Terms, and Phrases used in Medicine and Surgery, &c. By a Medical Practitioner.—12mo. pp. 185. Edinburgh: 1836.

14. A Bedside Manual of Physical Diagnosis, applied to Diseases of the Lungs, Pleura, Heart, Vessels, Abdominal Viscera, and Uterus. By Charles Cowan, M. D., P. & E., &c. 18mo. pp. 58. London: 1836.

15. A Practical Demonstation of the Human Skeleton. By George Elkington, M. R. C. S., Demonstrator of Anatomy in the Royal School of Medicine and Surgery, Birmingham. 12mo. pp. 240.—London and Birmingham: 1836.

16. Lectures on the Morbid Anatomy of the Serous and Mucous Membranes. In two volumes. By Tho's Hodgkin, M. D., Demonstrator of Morbid Anatomy, and Curator of the Museum at Guy's Hospital, &c. &c. 8vo. London: 1836.

17. An Essay on the Origin and Nature of Tuberculous and Cancerous Diseases. Read to the Medical Section of the British Association. By Richard Carmichael, M. R. T. A., Consulting Surgeon of the Richmond Surgical Hospital. 8vo. pp. 56. Dublin: 1836.

18. A Description of the Bones, together with their several connections with each other, and with the muscles. Specially adapted for students in Anatomy. By J. F. South, Assistant-Surgeon to St. Thomas' Hospital. Third edition, with 250 Engravings.—London: 1836.

19. The Retrospective Address upon Medical Science and Literature, delivered at the Fourth Anniversary Meeting of the Provincial Medical and Surgical Association, held at Manchester, July 21, 1836. By John Green Crosse, Esq., F. R. S., Surgeon to the Norfolk and Norwich Hospital. 8vo. pp. 88. Worcester: 1836.

20. Practical Observations on various subjects relating to Midwifery. By James Hamilton, M. D., F. R. S., E. Professor of Medicine and Midwifery, &c., in the University of Edinburgh. Part I. 8vo. pp. 317. Edinburgh: 1836.

21. Lectures on the Nervous System, and its Diseases. By Marshall Hall, M. D. 8vo. pp. 171. London: 1836.

22. Elements of Medical Jurisprudence. By Alfred S. Taylor, F. R. S., Lecturer on Med. Juris. and Chemistry in Guy's Hospital. Vol I. 8vo. pp. 511. London: 1836.

FRENCH.

1. Texture et Developement des Poumons. These soustenue, 24 Juin, 1836. Par M. A. Berard, Chirurgien de l'Hôpital Necker. 8vo. pp. 132. Paris: 1836.

2. Tràite Pratique de la Syphilis. Par le Baron Phillippe Boyer. 8vo. pp. 284. Paris: 1836.

3. Le Système Lymphatique, considérée sous les Rapports Anatomique, Physiologique, et Pathologique. Par G. Breschet, M. D., &c. 8vo. pp. 304. IV. Planches. Paris: 1836.

4. Mémoire sur les Rapports des Sexes dans les Naissances de l'Espéce Humaine. Par Ch. Girou de Buzareingues. 8vo. Paris: 1836.

5. De la Prostitution dans la Ville de Paris, considérée sous la Rapport de l'Hygiène Publique, de la Morale, et de l'Administration. Par A. T. B. Parent-Duchatelet, M. D., &c. 2 vols. 8vo. Paris: 1836.

6. Médicine Légale, Theorique et Pratique. Par Alph. Devergie, M. D., Professeur aggrégé de la Faculté de Médicine de Paris, Professeur de Médicine Légale et de Chèmie Médicale, &c. &c. Tomes I—II. 8vo. pp. 724—422. Paris: 1836

GERMAN.

1. Lehrbuch der Geburtshülfe fur Hebammen. Von F. R. Nägele, M. D., Professor der Medizin und Geburtshülfe zu Heidelberg, &c. Dritte Auflage. 8vo. pp. 406. Heidelberg: 1836.

2. Katechismus der Hebammen Kunst, als Anhang zu Seinem Lehrbuche, &c. Von Dr. F. K. Nägele. Dritte Auflage. 8vo. pp. 127. Heidelberg: 1836.

3. Beobachtungen aus dem gebiete der Pathologie und Pathologischen Anatomie, gesammelt von Dr. T. F. H. Albers, Professor der Medizin on der Universität zu Bonn. Erster Theil. 8vo. pp. 204. Bonn: 1836.

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S. D. G.

APPENDIX.

CHARTER AND RECOGNITION OF THE CINCINNATI COLLEGE.

When the Departments of Law and Medicine of the CINCINNATI COLLEGE were about to go into operation, in the Autumn of 1835, it was found that among the reports, intended to arrest them, was this, that the charter of the institution did not authorize their establishment. As the effect of this report on the minds of students was not known, till the classes were made up, no adequate corrective could be applied in time; but in reference to the future the following documents were obtained. They were not made public during the next vacation however, because the friends of the college could not believe, that its enemies would have the disingenuousness, to repeat the statements of the preceding year. But emboldened by the forbearance of the Board, their assertions were reiterated with increased energy, in the Autumn of 1836, and had the effect of turning from the institution, many young gentlemen from a distance, who came to Cincinnati for the purpose of receiving its instruction. In addition to this injury, another, affecting equally the character of the trustees and professors, was inflicted, in the suspicion excited abroad, that they were capable of organizing schools not authorized by their charter; and of thus practising an imposition on the community. It is under these circumstances, that the Faculty of Medicine, with the permission of the Board, have determined to give publicity to the following

LEGAL DECLARATIONS RELATIVE TO THEIR CHARTER.

At a meeting of the Trustees of the Cincinnati College, held in the College Chapel, December 13, 1836, the following preamble and resolutions were adopted:

Whereas the Trustees of the Cincinnati College, have been repeatedly informed, that certain persons have circulated, among students of Law and Medicine, the assertion, that the *charter* of this institution (expressly conferring all the powers usually exercised by any other College or University in the Union) does not authorize the establishment of Law and Medical Schools or Departments; and *whereas*, such representations are calculated to injure or retard the prosperity of the College; therefore

Resolved, That the Professors of Law in the said Institution, be respectfully requested to furnish this Board with a written statement of their views on the following questions:

1st. Does the Charter of the Cincinnati College empower the Board of Trustees to appoint Professors of Medicine and Law; and authorize those sciences to be taught in the Institution?

2d. Does it empower them to confer the Degree of Doctor of Medicine, and that of Bachelor of Laws?

3d. Does the Charter, in any way, prohibit them from establishing schools for the regular education and graduation of physicians and attorneys at law?

A true copy: P. S. SYMMES, Sec.

The undersigned, Professors of Law in the Cincinnati College, in compliance with a resolntion of the Board of Trustees, adopted December 13, 1836, submit the following opinion upon the questions therein propounded.

1st. Does the Charter of the Cincinnati College empower the Board of Trustees to appoint Professors of Medicine and Law, and authorize these sciences to be taught in the Institution?

To this question we reply in the affirmative. The Charter contains the following provisions: "The object of this act of incorporation is hereby declared to be the erection and maintenance of a College."

"The Board of Trustees may elect a President and Vice President of the College, and *may appoint such Professors and Tutors as they shall think necessary.*"

"They may, from time to time, make and enforce such rules, regulations and by-laws, for the government and well-being of the College, as may seem to them proper."

"They may appoint a Faculty to consist of the President, Vice President, Professors, and such other persons as they may judge necessary, and may vest in the Faculty so appointed, such powers as they may think expedient."

"They may grant and confer on any candidate, in such form as they may direct, *all or any of the degrees*, that are usually conferred in any College or University within the United States."

"They may cause the principles of morality and of the Christian religion to be inculcated; but the religious tenets that may be peculiar to any particular sect or denomination, shall never be taught or enforced in the College."

These are the only provisions of the charter which have an immediate bearing upon any of the questions submitted to us. They expressly authorize the Board of Trustees to "*appoint such professors and tutors as they shall think necessary.*" If, therefore, the Board think the appointment of *Professors of Law and Medicine*, necessary, their power to appoint such professors, is beyond a doubt. It is expressly conferred in the clearest possible language; and there is no prohibition or restriction. The only reference, in the Charter, to the branches of knowledge which may be taught in the College, is a prohibiiion, above quoted, of teaching *sectarian religion;* and this very restriction operates as a virtual authority to teach every other branch of knowledge, in which *Medicine* and *Law* are of course included. On the first question, then, there cannot be a shadow of doubt.

2d. Does the Charter empower them to confer the Degree of Doctor of Medicine, and that of Bachelor of Laws?

To this question, also, we reply in the affirmative. The Charter authorizes them to confer "*all or any of the degrees, that are usually conferred in any College or University within the United States.*" The only question then, is, are the degrees of *Doctor of Medicine* and *Bachelor of Laws*, usually conferred in any College or University in the United States? This is a question of fact, with which we are not concerned. We only say, that if such degrees are elsewhere conferred, the power to confer them here cannot be doubted, because it is expressly given; and we see not how more clear and comprehensive language could have been used.

3d. Does the Charter in any way prohibit them from establishing schools for the regular education and graduation of physicians and attorneys at law?

To this question we reply in the negative, as we understand its terms. By "*schools,*" we suppose, are meant *departments* of the College. If so, there is not only no prohibition against creating medical and law departments, but the power to create them, is included in the provisions above quoted, as the less is always contained in the greater. These departments are created by *by-laws;* and the power to make by-laws, and carry them into execution, is conferred in the broadest terms. Besides, on general principles, the power to do a given thing, always implies the power to use the proper means. Therefore, the power to cause the branches of law and medicine to be taught in the College, implies the power to organize distinct departments for that purpose. There is no more doubt, in short, of the power to create medical and law departments, and to confer degrees in medicine and law, than there is of the power to create an academical department, and confer the ordinary academical degrees.

Cincinnati, January 18, 1837.

JOHN C. WRIGHT,
T. WALKER,
EDWD. D. MANSFIELD,
JOS. S. BENHAM.

We, the undersigned, members of the Cincinnati Bar, having examined the "Charter of the Cincinnati College," do concur in the above opinion, as expressed by the Professors in the Law Department of that institution:—

E. S. Haines,
Daniel J. Caswell,
Edward Woodruff,
Ben. M. Piatt,
Adam N. Riddle,
W. M. Corry,
John G. Worthington,
Crafts J. Wright,
Charles Fox,
James Southgate,
Robert T. Lytle,
Edward P. Cranch,
B. T. Wright,
William Rankin, Jr.,
James Hall,
N. C. Read,
L. M. Gwynne,
Samuel Eells,
U. Tracy Howe,
James H. Perkins,
Daniel Van Matre,
W. R. Morris,
J. W. Piatt,
Elisha W. Chester,
Talbot Jones,
Rufus Hodges,
B. Drake,
S. P. Chase.

In reference to those who have given the foregoing opinions, two facts may be stated. *First*, Judge Wright, whose name stands at the head of the column, was, at the time of signing the paper, the *President* of the Board of Trustees of the *Medical College of Ohio;* the professors of which were the persons who undertook to decry our Charter; *second*, the gentlemen who have signed the paper, compose at least three-fourths of the Cincinnati Bar; and none to whom it was presented, refused to subscribe it.

RECOGNITION BY OTHER SCHOOLS.

University of Virginia, September 11, 1835.

Sir,—The Faculty of the University of Virginia have had under consideration your letter in regard to the "Cincinnati College," and I am directed to say that we have, by an unanimous vote, recognised your Institution "as technically equal to the other medical institutions of the country."

Very respectfully, your obedient servant,
ALFRED T. MAGILL, M. D., Prof. Med., &c.

WM. R. MORRIS, Esq., Pres. B. of T. C. C.

Baltimore, August 11, 1835.

Dear Sir,—In reply to your communication of the 3d instant, requesting to know whether the Medical Department of the Cincinnati College will be regarded, by the Faculty of the University of Maryland, as equal, technically considered, to the other Medical Schools of the United States, I have great pleasure in informing you, that the Faculty of the University of Maryland will consider one Session passed in the Cincinnati College, as technically equal to one passed in any of the other schools of the Union.

I may perhaps be excused in expressing my regret at one of the regulations of your College, which requires that a College to be technically equal to your own, shall have not less than five professors. This rule would exclude the students of one of the most useful institutions in the Union—the University of Virginia,—which, although it has but three medical chairs, has a session of ten months' duration. Its students are admitted in both the Universities of Pennsylvania and Maryland.

I am, your obedient servant,
ROBLEY DUNGLISON,
Dean of the Med. Faculty of the University of Maryland.

WM. R. MORRIS, Esq., Pres. B. T. C. C.

Philadelphia, September 7, 1835.

Dear Sir,—In consequence of the absence of the Faculty of Jefferson Medical College from town, they have not till now been able to decide on the subject of your letter. They agree to state that the Cincinnati College will be considered by them as technically equal to the other Colleges of the United States in the transaction of the business of the College, as far as regards the proposed degree.

Yours truly, with many wishes for the success of your institution,
WM. R. MORRIS, Esq. S. COLHOUN, Dean.

Philadelphia, July 3, 1837.

Dear Sir,—Doctor Hayes exhibited to me a few days ago a letter from you, of June 16, making inquiry whether the Cincinnati Medical College was admitted to the *Ad Eundum* of the University of Pennsylvania? To this, I have the honor to reply in the affirmative. I am, very respectfully, your obedient servant,

Prof. D. DRAKE. W. E. HORNER, Dean, &c.

[A verbal recognition of the same kind had been made in the autumn of 1835.]

Medical Institution of Yale College, July 15, 1837.

I hereby certify, that at a meeting of the Faculty of the Medical Institution of Yale College, July 14, at the house of Dr. Eli Ives, Professor of the Theory and Practice of Medicine, a letter was laid before the Board by me from Dr. Daniel Drake, requesting that a resolution might be passed by said Board, recognizing a course of lectures in the Medical School of the Cincinnati College, "as technically equal to one in the Medical Institution of Yale College." Thereupon, it was considered, that as our fundamental laws require the admission desired, in all cases of medical schools legally constituted, and in which an equivalent course of instruction is given; and the Board of Examiners having always acted upon this plan by admitting to an examination and to the honors of this institution all candidates coming with proper credentials from other medical schools; therefore, we, the Medical Professors of Yale College, are unanimously of opinion that the Medical School of the Cincinnati College will be regarded in the same light by the full Board of Examiners, although half of that Board, being medical men residing in other parts of the State, are now absent, and cannot be now consulted.

(Attest) B. SILLIMAN Prof. of Chemistry &c.,

Dr. DANIEL DRAKE. Medical Institution, Yale College.

Boston, July 7, 1837.

Dear Sir,—I have the honor to acknowledge the receipt of a copy of the Catalogue of the Officers and Students of the Cincinnati College, addressed to the Dean of the Faculty of Medicine in Harvard University, accompanied with a letter to Professor Bigelow of this Faculty.

I have the pleasure to send in answer to the request contained in the letter referred to, a copy of one of the provisions of the statutes of our University:—

"He shall have attended two courses of the Lectures delivered at the Massachusetts Medical College, by each of the Professors. Except that if he have attended a course of similar Lectures in any other College or University, the same may take the place of one of the above courses."

This article sets forth to what extent other Universities and Colleges are recognised here, and under what limitations the lectures of such will be received as equivalent to those in Harvard University.

I have the honor to be, Yours, &c.,

WALTER CHANNING,

Professor in Harvard University, and Dean of the Faculty of Medicine.

DANIEL DRAKE, M. D., Prof. in Cincinnati College.

Our friends of *Transylvania* laid the application of the President of our Board, made nearly two years ago, on their table for consideration; and have not yet been able to come to a conclusion what answer to give us. Meantime, they have graduated, after one course in their University, Mr. J. A. McReynolds, of Todd county, Kentucky, the only student of ours who has attended their lectures; while five of theirs have been graduated by us.

The Faculty of the *Medical College of Ohio*, have, also, neglected to recognize us. None of our pupils, however, have applied to them; but, of theirs, sixteen have been graduated in the CINCINNATI COLLEGE!

We are compelled to publish these various facts, in self-defence, and that our brethren, in distant parts of the Union, may know something of the dangers which have beset our enterprise while yet in its cradle. If it has not, like the infant *Hercules*, strangled the invading serpents, their fangs have at least not wounded its vital organs, *et quidam ex eis procul jam serpebant.* EDITORS.

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IN THE

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AS

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OF THE

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